

# TEAC<sup>®</sup>



## SERVICE MANUAL

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# V-95RX / V-90R

## Auto-Reverse Stereo Cassette Deck

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A domestic, Japan, model of the V-95RX (V-90R) is the V-R1 (V-R2).

# 1 SPECIFICATIONS AND SERVICE DATA

**Notes:**

1. Improvements may result in changes in specifications and service data.
2. 0 dB is referenced to 0.775 V in this manual.

**SPECIFICATIONS**

<b>Track system</b>	4-track, 2-channel stereo
<b>Heads</b>	3: 2 Erase and Record/Playback
<b>Type of tape</b>	Cassette tape, C-60 and C-90 (Philips type)
<b>Tape speed</b>	4.76 cm/s (1-7/8 ips)
<b>Input (level and impedance)</b>	
<b>MIC:</b>	Specified input level: -57 dB (1.09 mV)/10 kohms Minimum input level: -67 dB (346 $\mu$ V)
<b>LINE IN:</b>	Specified input level: -9 dB (275 mV)/50 kohms Minimum input level: -19 dB (86.9 mV)
<b>Output (level and impedance)</b>	
<b>OUTPUT:</b>	Specified output level: -5 dB (436 mV)/50 kohms Max. output level (V-95RX): -2.5 dB (581 mV)
<b>PHONES:</b>	Specified output level: -18 dB (97.5 mV)/8 ohms
<b>Equalization</b>	
<b>METAL:</b>	3180 $\mu$ s + 70 $\mu$ s
<b>Co (CrO<sub>2</sub>):</b>	3180 $\mu$ s + 70 $\mu$ s
<b>NORMAL:</b>	3180 $\mu$ s + 120 $\mu$ s
<b>Head configuration</b>	
	1/2-track, 1-channel erase head (2 used)
	1/4-track, 2-channel record/playback head
<b>Motors</b>	1 DC servo motor (for capstan drive) 1 DC motor (for reel drive) 1 DC motor (for ancillary control)
<b>Bias method</b>	AC bias recording
<b>Operation position</b>	Horizontal
<b>Power requirements</b>	
	100/120/220/240 V AC, 50/60 Hz, 25 W (General export models)
	120 V AC, 60 Hz, 25 W (U.S.A./Canada)
	220 V AC, 50 Hz, 25 W (EUR(ope))
	240 V AC, 50 Hz, 25 W (U.K./Australia)
<b>Weight</b>	6.3 kg (13-14/16 lbs.) net for V-95RX 6.0 kg (13-4/16 lbs.) net for V-90R
<b>Dimensions</b>	See Fig. 2-2

**SERVICE DATA****MECHANICAL**

<b>Tape speed deviation</b>	3,000 Hz $\pm$ 45 Hz
<b>Tape speed drift</b>	30 Hz
<b>Wow and flutter</b>	
<b>Playback:</b>	0.07% (WRMS)
<b>Record/playback:</b>	0.25% (RMS)
<b>Pinch roller pressure</b>	290 g $\pm$ 40 g (8.8 oz to 11.6 oz)
<b>Reel Torque</b>	
<b>Take-up in (FWD/REV):</b>	45 to 65 g-cm (0.62 to 0.90 oz-inch)
<b>Supply in (FWD/REV):</b>	2 to 4.5 g-cm (0.028 to 0.062 oz-inch)
<b>F.F. and REW:</b>	80 to 150 g-cm (1.1 to 2.1 oz-inch)
<b>Fast winding time</b>	
	90 seconds for MTT-501 (C-60)

**ELECTRICAL**

<b>Frequency response</b>	
	See Figs. 5-3 to 5-6.
<b>Signal-to-noise ratio</b>	
<b>Playback:</b>	NORMAL: 46 dB min.
<b>Overall:</b>	METAL, Co (CrO <sub>2</sub> ): 44 dB min. NORMAL: 43 dB min.
<b>Erase efficiency</b>	65 dB min. at 1 kHz (measured with input 10 dB higher than the specified input level)
<b>Channel separation</b>	30 dB min. at 1 kHz
<b>Adjacent track crosstalk</b>	40 dB min. at 125 Hz
<b>Total harmonic distortion</b>	2.2% or less with METAL and Co (CrO <sub>2</sub> ) tapes 2.0% or less with NORMAL tape

- Dolby Noise Reduction System manufactured under license from Dolby Laboratories Licensing Corporation. "Dolby" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.
- dbx Noise Reduction System made under license from dbx, Incorporated. The name "dbx" and the dbx symbol are trademarks of dbx, Incorporated.

**CAUTION**

- ⚠ Parts marked with this sign are safety critical components. They must always be replaced with identical components — refer to the appropriate parts list and ensure exact replacement.

## 2 REMOVAL OF EXTERNAL COMPONENTS

Disassemble in number-order

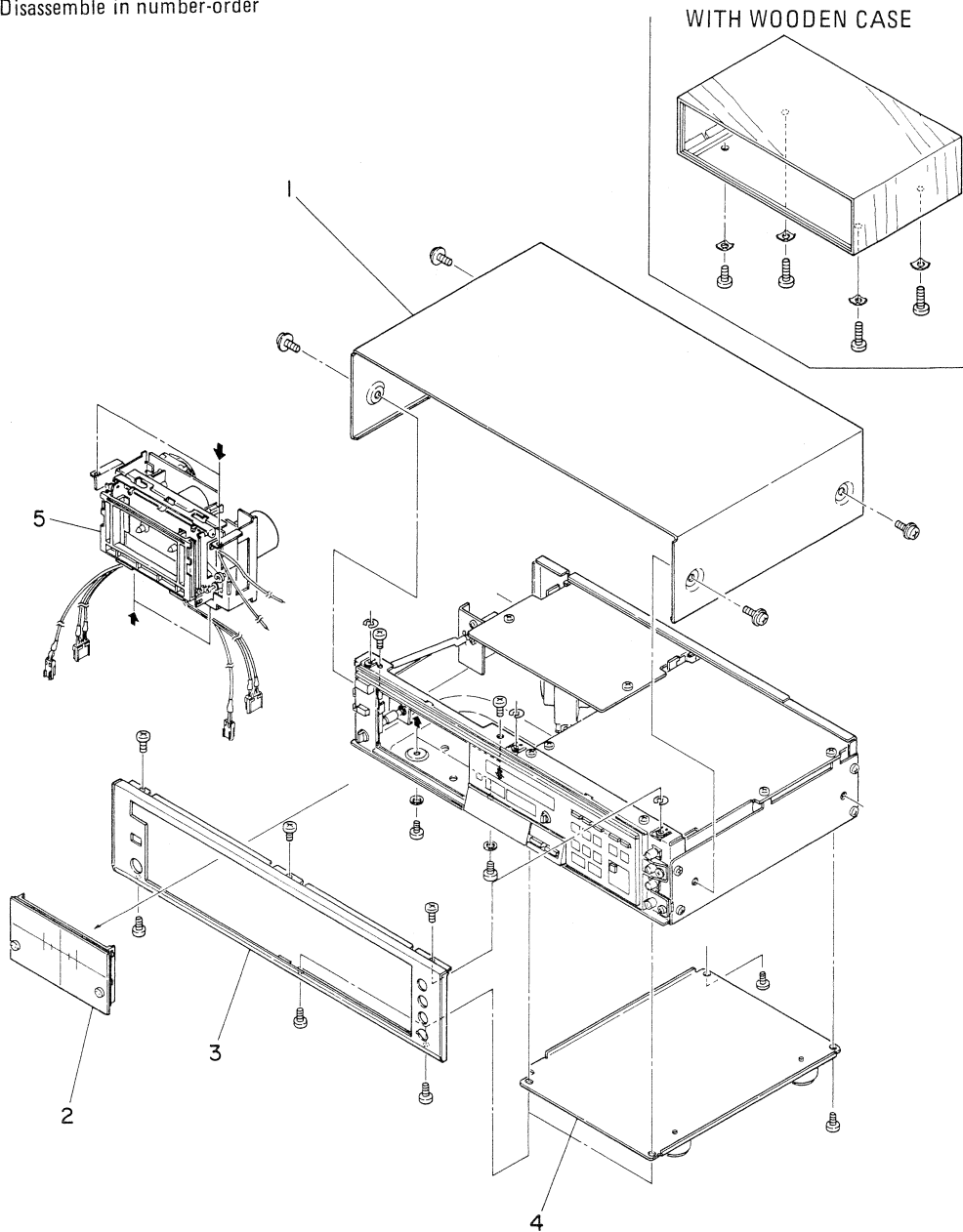


Fig. 2-1

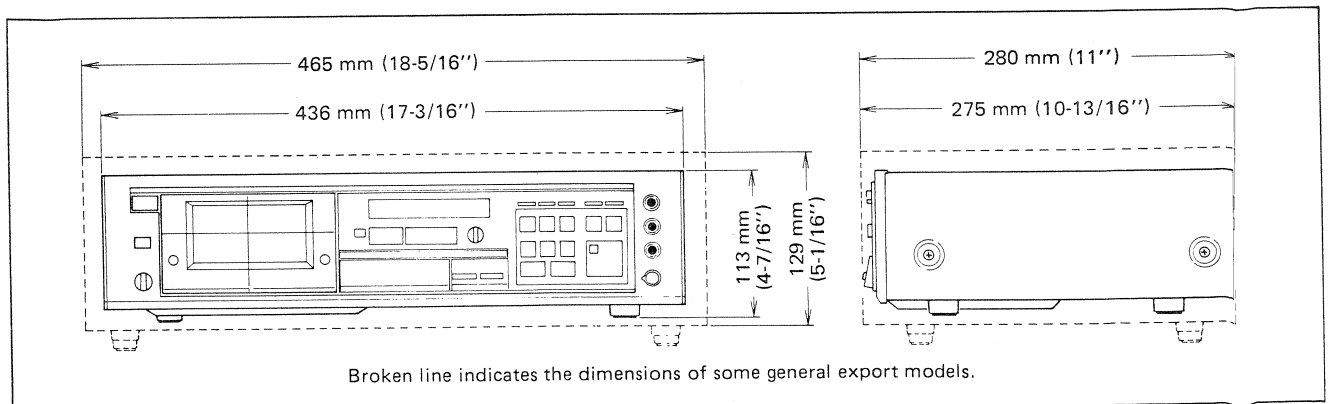


Fig. 2-2 Dimensions

## 3 PARTS LOCATION

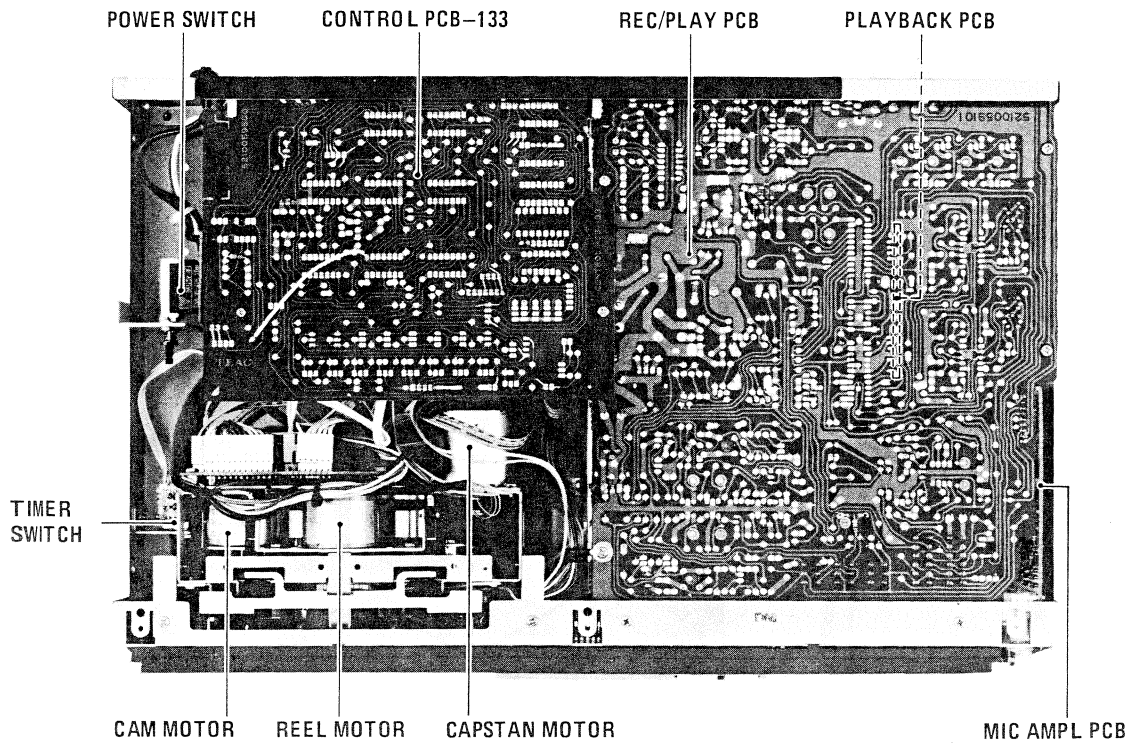


Fig. 3-1 Top view (V-95RX)

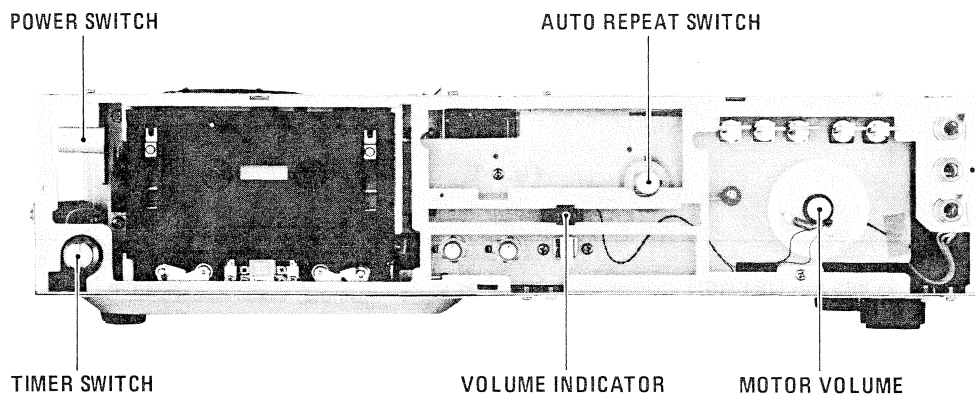


Fig. 3-2 Front view (V-95RX)



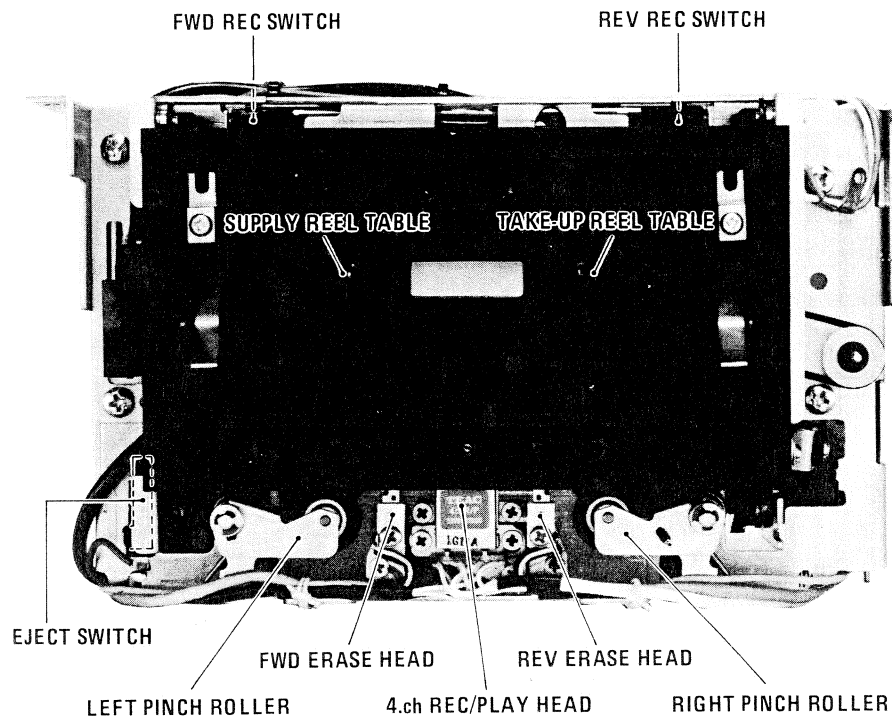


Fig. 3-3 Transport front view

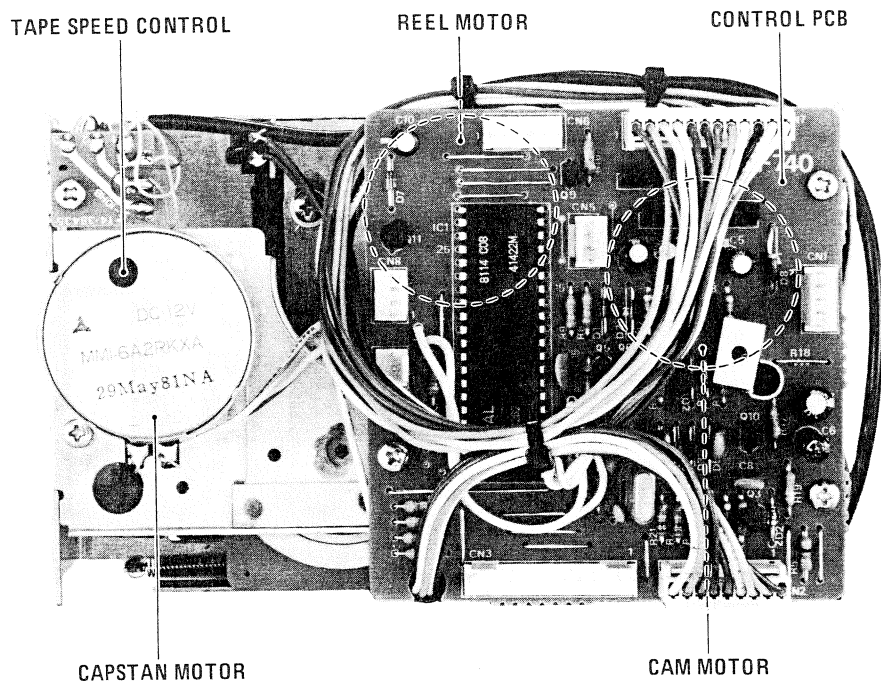


Fig. 3-4 Transport rear view

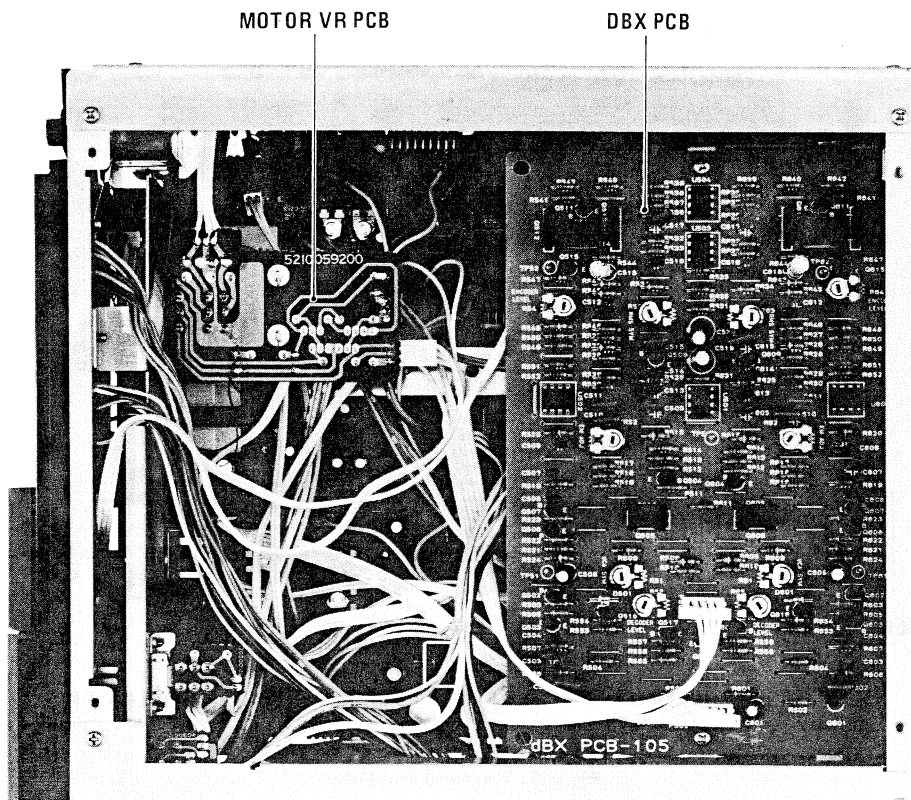


Fig. 3-5 Right side of bottom view (V-95RX only)

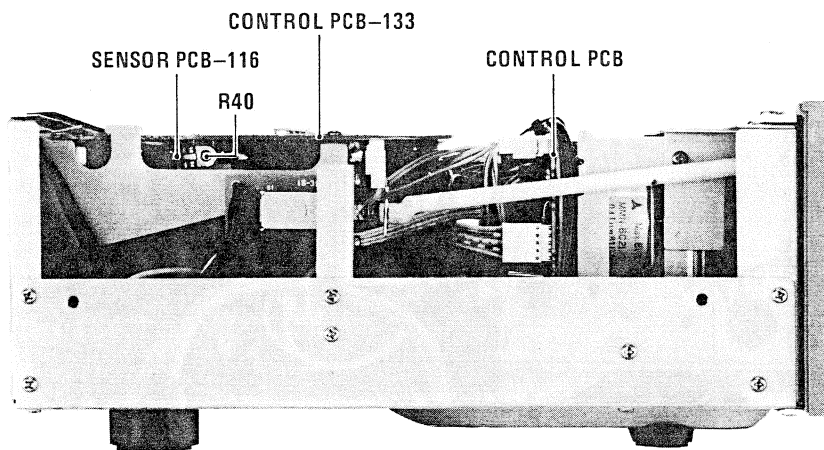


Fig. 3-6 Left side view

## 4 MECHANICAL CHECKS AND ADJUSTMENTS

### 4-1 REEL TORQUE

1. Load the cassette torque meter on the deck and read the pointer indication on the dial scale of the meter for each tape transport operation. The measured torque should be within the following values:

Take-up in (FWD/REV): 45 to 65 g-cm (0.62 to 0.90 oz-inch)  
 Supply in (FWD/REV): 2 to 4.5 g-cm (0.028 to 0.062 oz-inch)  
 F.F. and REW: 80 to 150 g-cm (1.1 to 2.1 oz-inch)

### 4-2 PINCH ROLLER PRESSURE

1. With the cassette holder closed and no tape loaded, put the deck in the forward play mode.
2. Hook a spring scale on the right pinch roller assembly.
3. Pull the scale down until there is sufficient force to separate the pinch roller from the capstan shaft.
4. Release the pressure until the pinch roller makes just enough contact with the capstan shaft for the pinch roller to begin to turn. At this point, note the reading on the scale. It should be  $290 \text{ g} \pm 40 \text{ g}$  (8.8 oz to 11.6 oz.)
5. Repeat the above procedure with the following exceptions.  
 Tape motion: Reverse play mode  
 Pinch roller: Left side

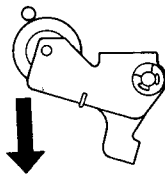


Fig. 4-1

### 4-3 TAPE SPEED

**Note:** The following checks should be performed for both forward and reverse play operations.

1. Connect a frequency counter to the deck as shown in Fig. 4-2.
2. Play a tape for more than five minutes to warm up the deck, then load a TEAC MTT-111 test tape containing a 3000 Hz test tone and play the test tape.
3. While the tape is playing, use a common slotted screwdriver with the handle completely insulated from the blade and adjust the control on the capstan motor (see Fig. 3-4) for a reading of  $3000 \text{ Hz} \pm 5 \text{ Hz}$  on the frequency counter.
4. Play the tape at the beginning and at the end, and check that the speed deviation is within the prescribed limits by observing that the reading on the frequency counter never deviates more than  $\pm 45 \text{ Hz}$  from 3000 Hz, nor drifts more than 30 Hz at any given time.

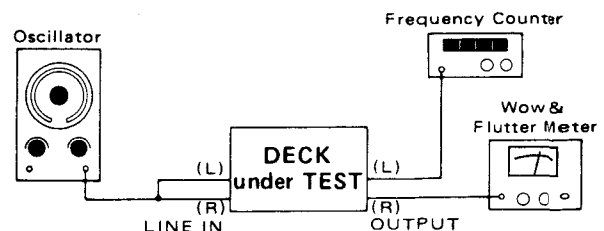


Fig. 4-2

### 4-4 WOW AND FLUTTER

- Notes:**
1. The following procedures should be performed in both the forward and reverse modes.
  2. These measurements should be made at the beginning, middle, and end of the tape.

#### 1) PLAYBACK

1. Connect a wow-and-flutter meter to the deck as shown in Fig. 4-2.
2. Load and play a TEAC MTT-111 test tape.
3. Check that the reading on the wow-and-flutter meter is within 0.07% (WRMS).

#### 2) RECORD/PLAYBACK

4. Load a TEAC MTT-501 test tape (blank) and record a 1000 Hz signal.
5. Rewind the tape to the beginning of the recorded section and play it back.
6. The wow and flutter should not be more than 0.25% (RMS).

## 4-5 HEAD ALIGNMENT

### OLDER TYPE

V-95RX: Ser. No. 2440 and before

V-90R: Ser. No. 3470 and before

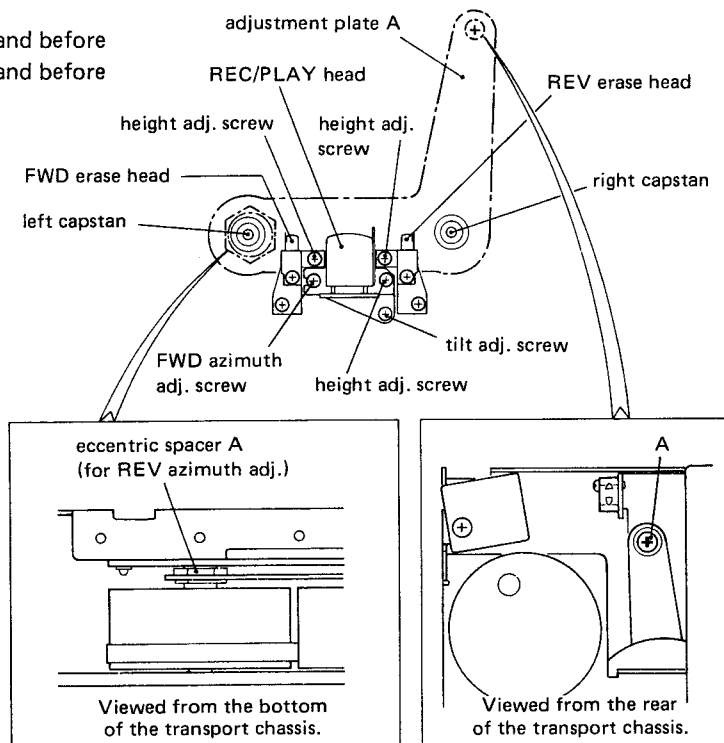


Fig. 4-3 Head construction of the older type

### NEWER TYPE

V-95RX: Ser. No. 2441 and after

V-90R: Ser. No. 3471 and after

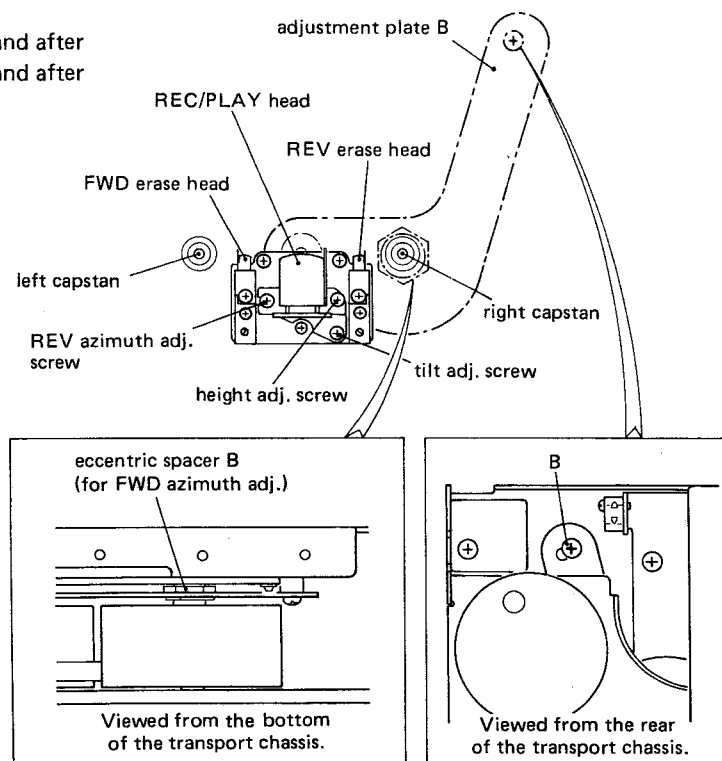


Fig. 4-4 Head construction of the newer type

**Notes:** 1. V-95RX/V-90R are divided into older and newer types with respect to the difference in head configuration and mounting method. To distinguish them, refer to Figs. 4-3 and 4-4. The alignment procedure is explained for the older type. For the newer type, the description below can be applied by changing the words in [ ].

2. To perform this section alignment, special tools (jigs) are required.

Extension cable assembly (TEAC P/N 5772906200)

Base plate check jig\* (TEAC P/N 5030610000)

Guide height check jig\* (TEAC P/N 5030613100)

\*These jigs are the ones used for C-1, C-2 and A-800.

Adjustment spanner (TEAC P/N 5736006800)

1. To facilitate the process, remove the tape transport chassis from the main chassis. Refer to Fig. 2-1.
2. Using the extension cable assembly, connect the tape transport chassis connectors and the main chassis connectors.
3. Connect the deck to the test equipment as shown.
4. Press the EJECT button to open the cassette holder.
5. Insert the base plate check jig into the cassette holder very carefully. When doing this, hold the jig in place until its bottom edge rests on the stopper at the bottom of the cassette holder.
6. Close the cassette holder and press down firmly on the plate jig.
7. Set in the forward or reverse play mode to raise the heads.
8. Using the height jig, adjust the REC/PLAY head's guide height by turning the height adj. screw.

When doing this, note that the final turn of the screw is in the clockwise direction. Do the same for all subsequent adjustments of screws.

9. Turn the tilt adj. screw of the REC/PLAY head so that the head surface is exactly perpendicular to the plate jig.
10. Repeat steps 8 and 9 until both height and tilt adjustments are satisfied.
11. Load a TEAC MTT-150 test tape and play it in the forward [reverse] direction.
12. Make sure that the phase relationship between L-ch and R-ch signals is within 45 degrees on the oscilloscope.
13. Load a TEAC MTT-356 test tape and play its 10 kHz signal section in the forward [reverse] direction.
14. Turn the REC/PLAY head's FWD [REV] azimuth adj. screw so that the playback output levels of both channels are at the maximum value.
15. Loosen the screw indicated by A in Fig. 4-3 [by B in Fig. 4-4].
16. Repeat steps 11 through 14 with the exceptions below.  
To turn the eccentric spacer, use the adjustment spanner especially prepared by TEAC.

Tape motion: Reverse [forward] play mode

Azimuth adjuster: Eccentric spacer A in Fig. 4-3  
[Eccentric spacer B in Fig. 4-4]

17. Recheck whether the REC/PLAY head's azimuth in forward [reverse] play is correct.
18. After completion of both forward and reverse azimuth adjustments, retighten screw A[B].

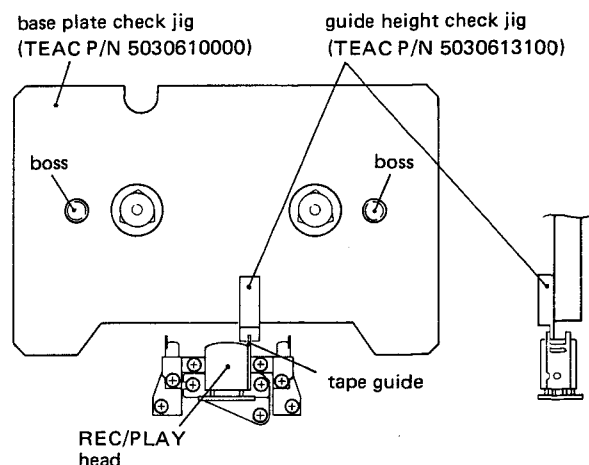


Fig. 4-5 Height adjustments

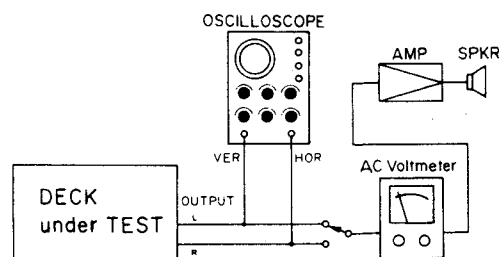


Fig. 4-6 Test setup for azimuth check

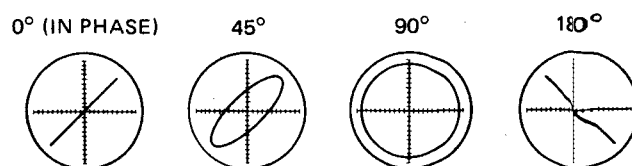


Fig. 4-7 Confirming phase relationship

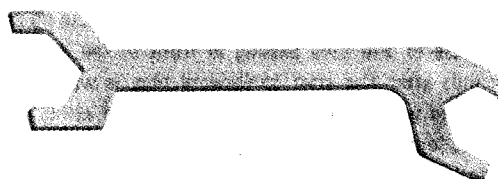


Fig. 4-8 Adjustment spanner (TEAC P/N 5736006800)

## 4-6 QUICK-REVERSE OPERATION

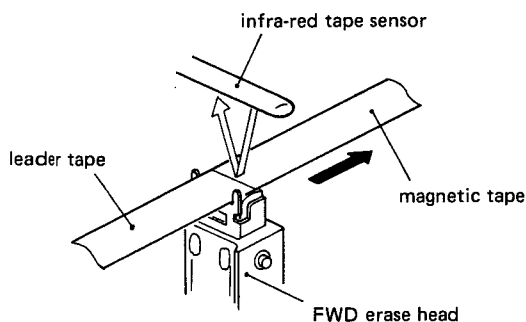




Fig. 4-9

### 4-6-1 OPERATING CONDITION

In the forward play mode with the AUTO-REVERSE switch set to  or , when the splicing tape passes in front of the erase head (from which the infra-red tape sensor is located slightly away), the following operation should be performed.

- Until the splicing tape passes in front of the erase head for 10 seconds after the start of the forward play mode. . . . . the deck should not be set in the reverse play mode.
- When the splicing tape passes in front of the erase head for more than 40 seconds after the start of the forward play mode. . . . . the deck should be set in the reverse play mode.

It should, however, be noted that during the 10 second to 40 second period after the start of forward play, changing to the reverse play mode may be regarded as a normal operation.

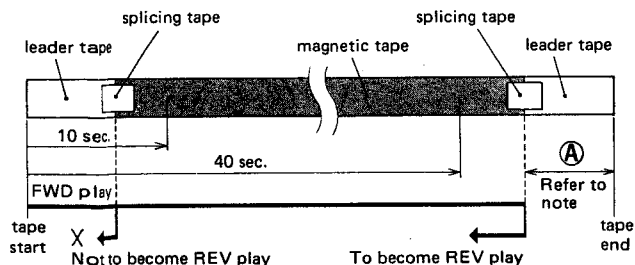


Fig. 4-10 A term of quick-reverse

**Note:** It is not specially prescribed that quick-reverse operation in the case of the tape passing in front of the erase head 10 seconds after the start of forward play is within the range indicated with A in Fig. 4-10. In this case, either the quick-reverse operation or the tape end stop detection may be permitted to permit the deck to be set to the reverse play mode.

### 4-6-2 CIRCUIT ADJUSTMENT

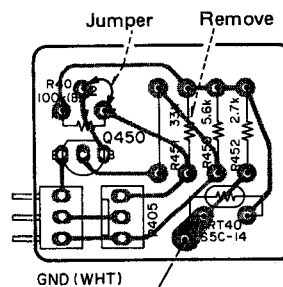
The following procedure is for adjustment of the quick-reverse circuit (sensor PC board).

1. Turn semi-fixed resistor (R-40) on the sensor PC board fully clockwise.
2. Load a TEAC MTT-501 test tape, play its magnetic tape section in the forward direction, then measure the emitter voltage of the transistor Q450.
3. Using the following table, determine the setting value of the Q450's emitter voltage corresponding to the above-measured value. During forward play, turn R40 to obtain the setting value.

EMITTER VOLTAGE OF Q450

MEASURED VALUE	SETTING VALUE	MEASURED VALUE	SETTING VALUE	MEASURED VALUE	SETTING VALUE
1.2	1.20	2.2	1.72	3.2	2.18
1.3	1.20	2.3	1.77	3.3	2.21
1.4	1.20	2.4	1.82	3.4	2.24
1.5	1.28	2.5	1.87	3.5	2.27
1.6	1.34	2.6	1.92	3.6	2.30
1.7	1.41	2.7	1.97	3.7	2.30
1.8	1.48	2.8	2.02	3.8	2.36
1.9	1.54	2.9	2.06	3.9	2.38
2.0	1.60	3.0	2.10	4.0	2.40
2.1	1.66	3.1	2.14		

4. When the measured value is below 1.2 V, perform the following change. Refer to Fig. 4-11.
  - 1) Remove R451 (33k ohms) on the sensor PC board.
  - 2) Jumper R40's terminal 3 and terminal 2.
  - 3) Load a MTT-501 tape, then make a coarse adjustment of R40 so that, during forward play of the MTT-501's magnetic tape section, Q450's emitter voltage becomes approx. 1.4V.
  - 4) Perform fine-adjustment of R40 so that this voltage produces approx. a 200 mV variation between the stop mode and the forward play mode.
  - 5) Confirm that, during forward play of the MTT-501 tape, the deck performs a quick-reverse operation at the spliced portion of the MTT-501's magnetic tape and leader tape.



5. If the measured value is above 4.1 V, perform the following change.

- 1) Change R451's value on the sensor PC board from 33k ohms to 8.2k ohms.
- 2) Load the MTT-501 tape, then adjust R40 so that, during forward play of the MTT-501's magnetic tape section, Q450's emitter voltage becomes approx. 1.4 V.
- 3) Confirm that this voltage has approx. 300 mV to 400 mV variation between the stop mode and the forward play mode.

## 4-7 CAM GEARS

The mounting position relationship among the three cam gears (cam gear F, cam gear R and relay gear) is special. Therefore, their installation should be performed using the following procedure.

1. Move pinch roller actuating lever F and head base assembly as shown by the arrows.
2. Mount cam gear F so that its hole indicated with \* lines up with the hole on the transport chassis. Then relax the above-moved two parts.
3. Mount the other two gears by lining up their markers as shown.

**Note:** When mounting cam gear R, pinch roller actuating lever R should be moved in the direction of the arrow.

Viewed from the rear  
of the transport chassis

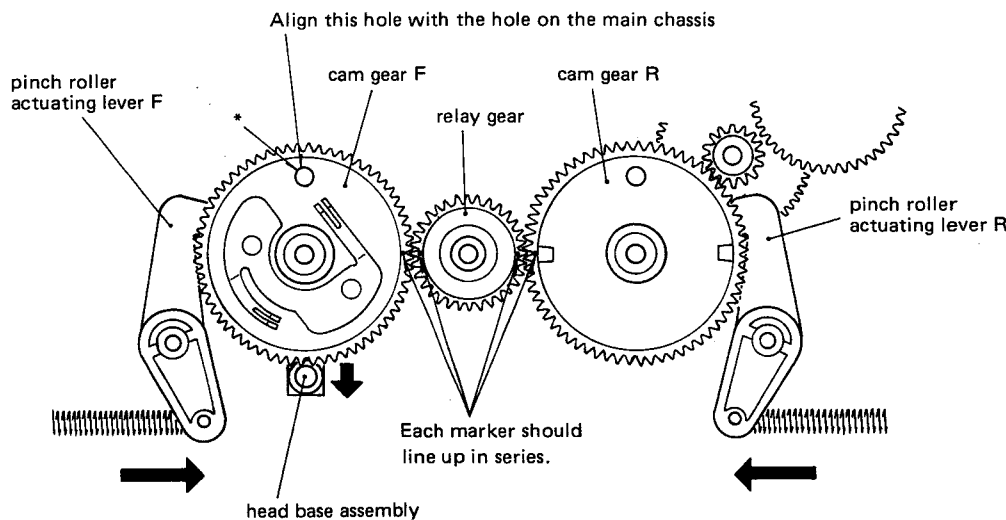


Fig. 4-12 Cam gears

## 4-8 VOLTAGE CONVERSION (GENERAL EXPORT MODELS ONLY)

1. Always disconnect the power cord before making these adjustments.
2. Remove the top cover\* of the deck by removing the screws from the sides.
3. Locate the voltage selector near the power transformer as shown in the illustration.
4. Loosen the two screws in the jumper bar and move the bar so that it jumpers the terminals marked with the required voltage (100, 120, 220, or 240).
5. Retighten the screws.
6. Replace the top cover\*.

\*Decks sold in some limited areas only have a wooden case which must be removed using the screws on the bottom of the deck before setting the voltage selector.

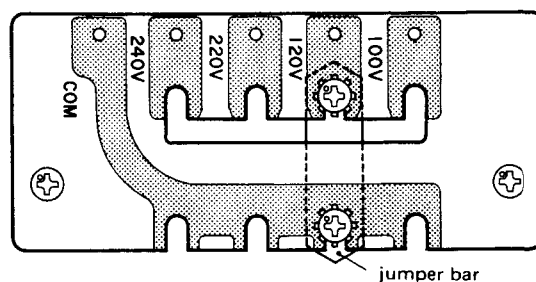


Fig. 4-13

## 5 ELECTRICAL CHECKS AND ADJUSTMENTS

### PRECAUTIONS

1. Before performing adjustments and checks, clean and demagnetize the entire tape path.
2. Make sure that the deck is properly set for the voltage in your locality.
3. In general, adjustments and checks should be made in the order of the forward play (or record) mode, then the reverse play (or record) mode, and in the order of the L-ch then the R-ch. Double REF. Nos. and test point designations indicate L-ch/R-ch. (Example: R11/R21)
4. 0 dB is referenced to 0.775 V. If an AC voltmeter that references 0 dB to 1 V is used, appropriate compensation should be made.
5. The AC voltmeter used in the procedures must have an input impedance of 1 Mohm or more.
6. Note the "deck settings" at the top of each chart. The settings apply to all checks for a specific chart unless explicitly stated otherwise.

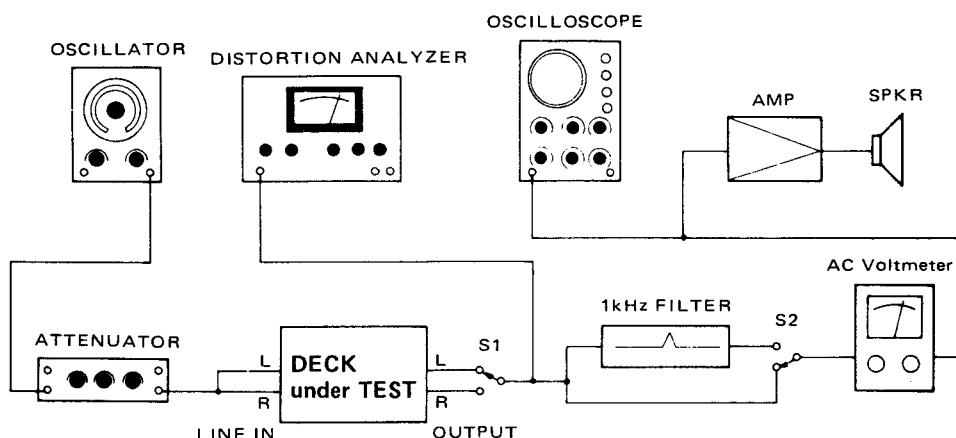


Fig. 5-1 Basic test setup

### 5-1 PLAYBACK PERFORMANCE

#### V-95RX settings:

TAPE SELECTOR sw: METAL  
NR SYSTEM sw: OUT

#### V-90R settings:

TAPE SELECTOR sw: METAL  
DOLBY NR sw: OUT

#### TEAC test tapes:

MTT-150: For Dolby level calibration  
MTT-356: For playback frequency response check for METAL, Co (CrO<sub>2</sub>)  
MTT-501: For S/N check with NORMAL

ITEM	PREPARATION/SETTING	INPUT SIGNAL	ADJUST (or CHECK)	MEASURING POINT: RESULT	REMARKS
1. REC/PLAY head azimuth	Check REC/PLAY head azimuth by referring to section 4-5 on pages 8 and 9.				
2. Playback level	FWD play mode	MTT-150	R10/R20	DOLBY TP.L/TP.R: 580 mV (-2.5 dB)	
			OUTPUT cont.	OUTPUT: -5 dB (436 mV)	V-95RX only • Specified setting if OUTPUT cont.
			Check	OUTPUT: -5 dB $\pm$ 1 dB (388 mV to 489 mV)	V-90R only
	REV play mode		R11/R21	DOLBY TP.L/TP.R: 580 mV (-2.5 dB)	
			Check	OUTPUT: -5 dB $\pm$ 1 dB (388 mV to 489 mV)	
			IMPORTANT: Do not move the OUTPUT control (V-95RX only) during any subsequent process.		



ITEM	PREPARATION/SETTING		INPUT SIGNAL	ADJUST (or CHECK)	MEASURING POINT: RESULT	REMARKS
3. PEAK PROGRAM LEVEL METER	FWD play mode		MTT-150	R12/R22	METER indication: 0 dB	
4. Frequency response	FWD & REV play modes	TAPE SELECTOR: METAL	MTT-356	Check	OUTPUT: Fig. 5-3	
		TAPE SELECTOR: NORMAL	MTT-356 (10 kHz)		OUTPUT: When the TAPE SELECTOR is changed from METAL to NORMAL, 10 kHz output should be approx. 4 dB higher than measured in the above step.	
5. Signal-to-noise ratio	FWD & REV play modes TAPE SELECTOR: NORMAL		Fully-erased MTT-501 tape (Use bulk tape eraser)	Check	OUTPUT: 46 dB min.	Ratio of spec. output of -5 dB to noise

## 5-2 MONITOR PERFORMANCE

### V-95RX settings:

Record-pause mode

NR SYSTEM sw: OUT

REC BAL cont.: Center (click) position

OUTPUT cont.: Specified position (item 2)

### V-90R settings:

Record-pause mode

DOLBY NR sw: OUT

MPX sw: OUT

ITEM	PREPARATION/SETTING	INPUT SIGNAL	ADJUST (or CHECK)	MEASURING POINT: RESULT	REMARKS	
6.Min. input level	RECORDING LEVEL cont. (V-95RX): Max. Record Level cont. (V-90R): Max.	MIC: 400 Hz/-67 dB (346 $\mu$ V)	Check	OUTPUT: -5 dB $\pm$ 3 dB (308 mV to 615 mV)	MIC min.input level	
		LINE IN: 400 Hz/-19 dB (86.9 mV)			LINE min. input level	
7.Specified LINE input level	—	LINE IN: 400 Hz/-9 dB (436 mV)	RECORDING LEVEL cont.	DOLBY TP. L/TP. R: 580 mV (-2.5 dB)	Specified setting of RECORDING LEVEL (or Record Level) cont. V-95RX	
			Record Level cont.			V-90R
			V-90R: Record Level control position difference between channels should be 1/2 scale or less.			
			Check	OUTPUT: -5 dB $\pm$ 1 dB (388 mV to 489 mV)		
			IMPORTANT: Do not change the setting of the RECORDING LEVEL (or Record Level) control after establishing the setting as above.			
8.PEAK PROGRAM LEVEL METER	—	LINE IN: 400 Hz/-9 dB (436 mV)	Check	METER indication: 0 dB $\pm$ 1 dB		
9.PHONES output level	Connection: Fig. 5-2	LINE IN: 400 Hz/-9 dB (436 mV)	Check	PHONES: -18 dB $\pm$ 3 dB (69.0 mV to 138 mV)		

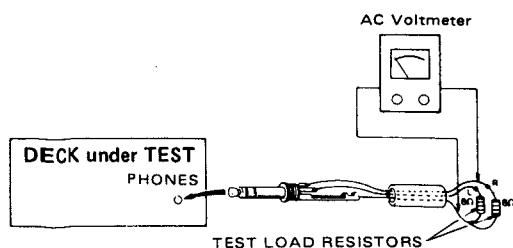


Fig. 5-2 Test setup for PHONES check

## 5-3 RECORDING PERFORMANCE

### V-95RX settings:

NR SYSTEM sw: OUT  
 REC BAL cont.: Center (click) position  
 RECORDING LEVEL cont.: Specified position (item 7)  
 OUTPUT cont.: Specified position (item 2)

### V-90R settings:

DOLBY NR sw: OUT  
 MPX sw: OUT  
 Record Level cont.: Specified position (item 7)

### TEAC test tapes:

MTT-5061: For record test with Co (CrO<sub>2</sub>)  
 MTT-501: For record test with NORMAL  
 MTT-5072: For record test with METAL

ITEM	PREPARATION/SETTING		INPUT SIGNAL	ADJUST (or CHECK)	MEASURING POINT: RESULT	REMARKS	
10. Bias trap	Record-pause mode		LINE IN: No signal	U107/U207	BIAS TRAP TP.L/TP.R Min. reading		
11. Record bias	Turn trim pots R18/R28, R19/R29 fully clockwise for each trim pot to obtain minimum resistance value (viewed from REC/PLAY AMPL PCB foil side).						
	FWD & REV record/play modes	TAPE SELEC- TOR: METAL Tape: MTT-5072	LINE IN: 400 Hz & 6.3 kHz alternately/-42 dB (6.15 mV)	R18/R28 (FWD) R19/R29 (REV)	OUTPUT: Nearly equal level at both frequencies		
		TAPE SELEC- TOR: Co (CrO <sub>2</sub> ) Tape: MTT-5061		Check			
		TAPE SELEC- TOR: NORMAL Tape: MTT-501		R30 .....		... For L & R-ch in FWD & REV	
12. Record level	FWD & REV record/play modes	TAPE SELEC- TOR: METAL Tape: MTT-5072	LINE IN: 400 Hz/-12 dB (195 mV)	R16/R26 (FWD) R17/R27 (REV)	OUTPUT: -8 dB (308 mV)		
		TAPE SELEC- TOR: Co (CrO <sub>2</sub> ) Tape: MTT-5061		Check	OUTPUT: -8 dB ±1.5 dB (259 mV to 367 mV)		
		TAPE SELEC- TOR: NORMAL Tape: MTT-501					
13. Total harmonic distortion	Same as 12 above		LINE IN: 400 Hz/-12 dB (195 mV)	Check	OUTPUT: 2.2% or less [METAL, Co (CrO <sub>2</sub> )] 2.0% or less [NORMAL]		
14. Frequency response	Same as 12 above		LINE IN: Required signal/ -42 dB (6.15 mV)	Check	OUTPUT: Fig. 5-4 to 5-6 If frequency response is out of specification, recheck "11. Record bias" and "13. Total harmonic distortion".		
15. Signal-to-noise ratio	Same as 12 above		LINE IN: 1 kHz/-9 dB (275 mV) ↓ No signal	Check	OUTPUT: 44 dB min. [METAL, Co (CrO <sub>2</sub> )] 43 dB min. [NORMAL]	Ratio of specified output to -5 dB to noise	

ITEM	PREPARATION/SETTING	INPUT SIGNAL	ADJUST (or CHECK)	MEASURING POINT: RESULT	REMARKS
16. Erase efficiency	<ul style="list-style-type: none"><li>• Connection is same as in Fig. 5-1, but engage 1-kHz filter.</li><li>• Record a 1-kHz signal in FWD (REV) direction. Rewind (wind) tape to midpoint of recorded portion. Record a "no signal" portion in FWD (REV) direction. Find the difference between the 1-kHz portion and the "no-signal" portion.</li></ul>				
	FWD & REV record/play modes TAPE SELECTOR: METAL Tape: MTT-5072 TAPE SELEC- TOR: NORMAL Tape: MTT-501	LINE IN: 1 kHz/+1 dB (0.869 V) ↓ No signal	Check	OUTPUT: 65 dB min. ratio	Ref. output level: +5 dB (1.38V)
17. REC MUTE function	<ul style="list-style-type: none"><li>• Connection: Fig. 5-1, but engage 1-kHz filter.</li><li>• Record a 1-kHz signal for several seconds in the FWD (REV) direction. Then push the REC MUTE button to provide four seconds of blank space on the tape (At this time, make sure the REC button indicator lamp flashes on and off). After the deck automatically goes into the record-pause mode, rewind (wind) and play the tape in FWD (REV) direction. Find the difference between the 1-kHz portion and the "no signal" portion.</li></ul>				
	FWD & REV record/play modes TAPE SELECTOR: Co (CrO <sub>2</sub> ) Tape: MTT-5061	LINE IN: 1 kHz/+1 dB (0.869 V) ↓ No signal	Check	OUTPUT: • 65 dB min. ratio	Ref. output level: +5 dB (1.38V)
18. Channel separation	<ul style="list-style-type: none"><li>• Connection: Fig. 5-1, but do not connect LINE IN (R), and engage 1-kHz filter.</li><li>• Set the deck to FWD (REV) record mode. Find the difference between the 1-kHz recorded portion (L-ch) and the "no signal" portion (R-ch).</li></ul>				
	FWD & REV record/play modes TAPE SELECTOR: Co (CrO <sub>2</sub> ) Tape: MTT-5061	LINE IN: L-ch: 1 kHz/-9 dB (275 mV) R-ch: No signal	Check	OUTPUT: 30 dB min. ratio	
19. Adjacent track crosstalk	<ul style="list-style-type: none"><li>• Connection: Fig. 5-1, but do not connect LINE IN (L) and OUTPUT (L).</li><li>• Record a 125-Hz signal on the R-ch in FWD (REV) direction and note the output level. Invert the tape and play the R-ch track in the FWD (REV) direction. Check the leakage level against the output reference of the previously recorded portion.</li></ul>				
	FWD & REV record/play modes TAPE SELECTOR: Co (CrO <sub>2</sub> ) Tape: MTT-5061	LINE IN: L-ch: No signal R-ch: 125 Hz/-9 dB (275 mV)	Check	OUTPUT: 40 dB min. ratio	
20. DOLBY NR effect	V-95RX: Record a 1-kHz signal in the FWD direction with the NR SYSTEM left switch in OUT and the right switch in DOLBY NR. Play this portion in the FWD direction with the left switch set to OUT and set to IN. Obtain the difference in the output level between the OUT and IN positions. Repeat the above process using a 10-kHz signal.				
	FWD record/play mode TAPE SELECTOR: Co (CrO <sub>2</sub> ) Tape: MTT-5061	LINE IN: 1 kHz/-29 dB (27.5 mV)	Check	OUTPUT: Variation 3 dB ~ 8 dB	
		LINE IN: 10 kHz/-39 dB (8.69 mV)		OUTPUT: Variation 8 dB ~ 12 dB	
V-90R: Record a 1-kHz signal in the FWD direction with the DOLBY NR switch OUT. Play this portion in the FWD direction with the DOLBY NR switch set to OUT and set to IN. Obtain the difference in the output level between the OUT and IN positions. Repeat the above process using a 10-kHz signal.					

## 5-4 DBX PERFORMANCE (V-95RX ONLY)

Note: Test this performance only after you are sure that the "5-5 DBX PCB ADJUSTMENT" is correct.

### V-95RX settings:

NR SYSTEM sw: DBX  
REC BAL cont.: Center (click) position  
RECORDING  
LEVEL cont.: Specified position (item 7)  
OUTPUT cont.: Specified position (item 2)

### TEAC test tapes:

MTT-5061: For record test with Co (CrO<sub>2</sub>)  
MTT-501: For record test with NORMAL  
MTT-5072: For record test with METAL

ITEM	PREPARATION/SETTING		INPUT SIGNAL	ADJUST (or CHECK)	MEASURING POINT: RESULT	REMARKS
21. Encoding level setting	Record-pause mode		LINE IN: 1 kHz/-9 dB (275 mV)	Check	Term. 1(6) of P502 -2.5 dB (580 mV)	
	If, in the above step, the RESULT is out of specification, correct using the RECORDING LEVEL control so that the correct value is obtained when the control is in the specified position (item 7).					
	Record-pause mode		LINE IN: 1 kHz/-14.5 dB (146 mV)	R54/R64	TP51/TP61 on dbx PCB: -8 dB (308 mV) .....	Reference 1
22. Encoder operation check (level)	Record-pause mode	LINE IN: 1 kHz/-74.5 dB (146 $\mu$ V)	Check	TP51/TP61 on dbx PCB: -30 dB $\pm$ 0.5 dB variation from Ref. 1		
		LINE IN: 1 kHz/+5.5 dB (1.46 V)		TP51/TP61 on dbx PCB: +10 dB variation from Ref. 1		
23. Encoder operation check (frequency)	Record-pause mode	LINE IN: 100 Hz/-14.5 dB (146 mV)	Check	TP51/TP61 on dbx PCB: +0.5 dB $\pm$ 1 dB deviation from Ref. 1		
		LINE IN: 10 kHz/-14.5 dB		TP51/TP61 on dbx PCB: -2.8 dB $\pm$ 1 dB deviation from Ref. 1		
24. Decoding level setting	● Record a 1 kHz signal with the NR SYSTEM switch OUT. Rewind and play the recorded portion. Note the off-the-tape level from OUTPUT ..... (1). Repeat the above process with the NR SYSTEM switch set to "DBX". Note the off-the-tape level ..... (2). Compare the difference between (1) and (2). If $\pm$ 1 dB or more, correct by R55/R65 using (1) as Reference.					
	FWD record/play mode TAPE SELECTOR: METAL Tape: MTT-5072	NR SYSTEM: OUT	LINE IN: 1 kHz/-14.5 dB (146 mV)	Check	OUTPUT: Note the off-the-tape level .....	Reference 2
		NR SYSTEM: DBX	LINE IN: 1 kHz/-14.5 dB	Check (R55/R65)	OUTPUT: $\pm$ 1 dB from Ref. 2	
25. Distortion	FWD & REV record/play modes Measure the off-the-tape level [TAPE SELECTOR: METAL Tape: MTT-5072 [TAPE SELECTOR: Co (CrO <sub>2</sub> ) Tape: MTT-5061 [TAPE SELECTOR: NORMAL Tape: MTT-501		LINE IN: 400 Hz/-12 dB (195 mV)	Check	OUTPUT: 1.5% or less	
26. Signal-to-noise ratio	Same as above		LINE IN: 1 kHz/-9 dB (275 mV) ↓ No signal	Check	OUTPUT: 65 dB min. ratio	Ratio of 1 kHz output (-5 dB) to noise

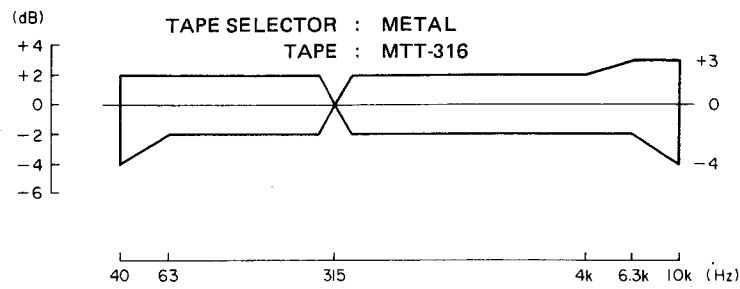


Fig. 5-3 Playback frequency response

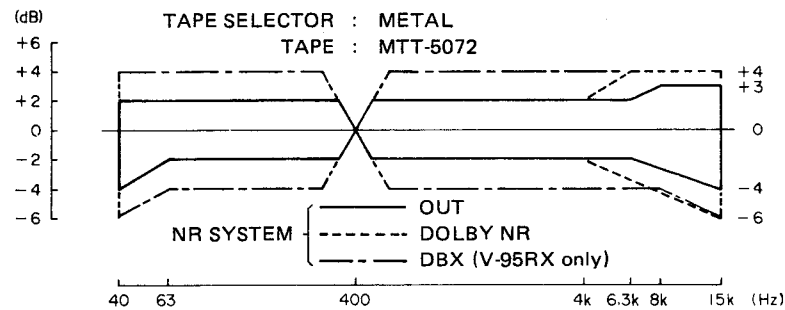


Fig. 5-4 Overall frequency response (METAL)

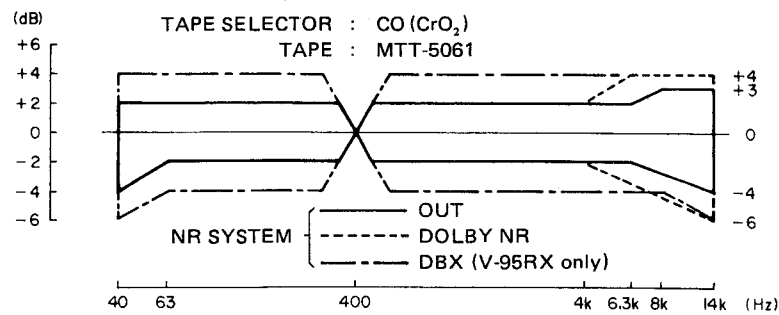


Fig. 5-5 Overall frequency response (Co (CrO<sub>2</sub>))

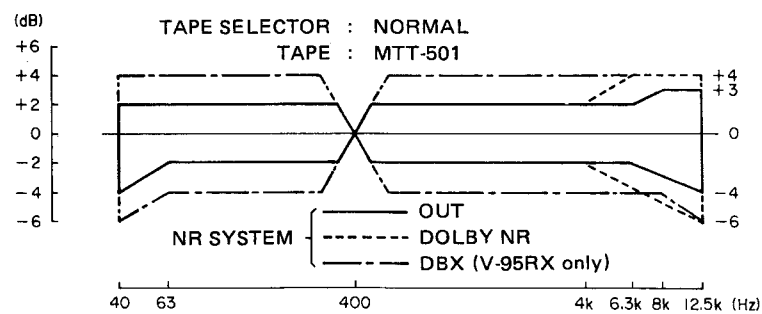


Fig. 5-6 Overall frequency response (NORMAL)

## 5-5 DBX PCB ADJUSTMENT (V-95RX ONLY)

### Notes:

1. This section adjustment is not usually needed unless any adjustor(s) has been changed or any component(s) on the PCB has sustained damage, since the dbx PCB assembly has been precisely adjusted at the factory.
2. For this section adjustment, it is necessary to disconnect the wires from terminals 1, 3, 4, and 6 of connector P502 on the dbx PCB. Turn the deck OFF to prevent accidental damage when disconnecting or reconnecting.
3. Simply press the POWER switch to ON (all other switches and controls on the deck have no effect on this adjustment), then make this section adjustment.

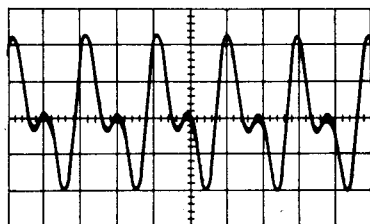


Fig. 5-7 R53/R63 setting (Incorrect)

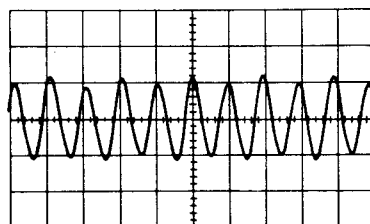


Fig. 5-8 R53/R63 setting (Correct)

## 5-5-1 ENCODING ADJUSTMENT

Adjustment should be performed in the record mode.

1. Preset all adjustors approximately to the center position.
2. Make the Fig. 5-9 connections, then feed 100 Hz, -8 dB (308 mV) to 1(6) terminal (INPUT).
3. Adjust R53/R63 (RMS SYM) to obtain a clear 200 Hz sine-wave on the oscilloscope. See Figs. 5-7 and 5-8.
4. Change the connections to Fig. 5-10, then feed a 1 kHz/-8 dB (308 mV) input signal to the INPUT terminal. Adjust R54/R64 (ENCODING LEVEL) so that AC voltmeter reads -8 dB (308 mV).
5. With the conditions in step 4, adjust R51/R61 (VCA SYM) for minimum distortion (0.2% or less).
6. Like Fig. 5-11, connect a DC voltmeter to TP51/TP61, then note the reading on the DC voltmeter with an input signal of 1 kHz/-8 dB (308 mV).
7. Cut off the input signal, then make the same measurement as in step 6 to adjust R52/R62 (EM ADJ) for the same level.
8. Repeat above steps 5 to 7 until the best results are obtained.
9. Check that when the input signal is 100 Hz/-8 dB (308 mV), then 10 kHz/-8 dB, the output signal from 3(4) terminal (OUTPUT) deviates by +0.5 dB  $\pm$  0.5 dB, then -2.8 dB  $\pm$  0.5 dB from -8 dB (reference), respectively ..... so that output, as a voltage value, should be 308 mV to 346 mV for 100 Hz, and 211 mV to 237 mV for 10 kHz.
10. Check that when 1 kHz/-68 dB (308  $\mu$ V) is applied, the output is -38 dB  $\pm$  0.5 dB (9.21 mV to 10.3 mV).
11. Check that when the input signal is 1 kHz, +12 dB (3.08 V), the output is +2 dB  $\pm$  0.5 dB (581 mV to 652 mV) and the distortion factor is 0.3% or less.

## 5-5-2 DECODING ADJUSTMENT

Adjustment should be performed in the playback mode.

1. Preset all adjustors approximately to the center position.
2. Make the Fig. 5-12 connections, then feed a 1 kHz/-8 dB (308 mV) input signal to the INPUT terminal. Adjust R55/R65 (DECODING LEVEL) so that AC voltmeter reads -8 dB (308 mV).
3. Check that when the input signal is 100 Hz/-8 dB (308 mV), then 10 kHz/-8 dB, the output signal from 3(4) terminal (OUTPUT) deviates by -1 dB  $\pm$  0.5 dB, then +5 dB  $\pm$  0.5 dB from -8 dB (reference), respectively ..... so that output, as a voltage value, should be 652 mV to 731 mV for 100 Hz, and 1.30 V to 1.46V for 10 kHz.
4. Check that when 1 kHz/-38 dB (9.75 mV) is applied, the output is -68 dB  $\pm$  1 dB (275  $\mu$ V to 346  $\mu$ V).
5. Check that when the input signal is 1 kHz, +2 dB (0.975 V), the output is +12 dB  $\pm$  1 dB (2.75 V to 3.46 V) and the distortion factor is 0.3% or less.

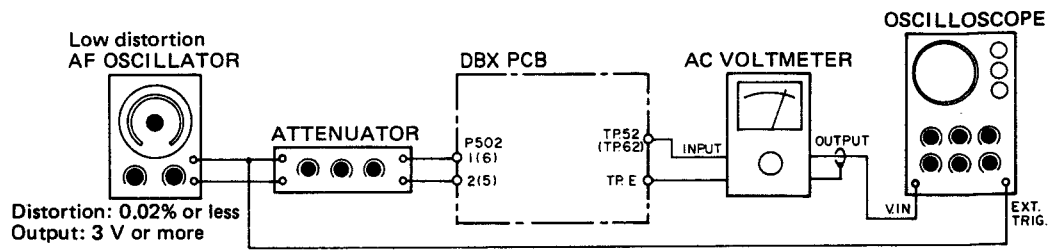


Fig. 5-9

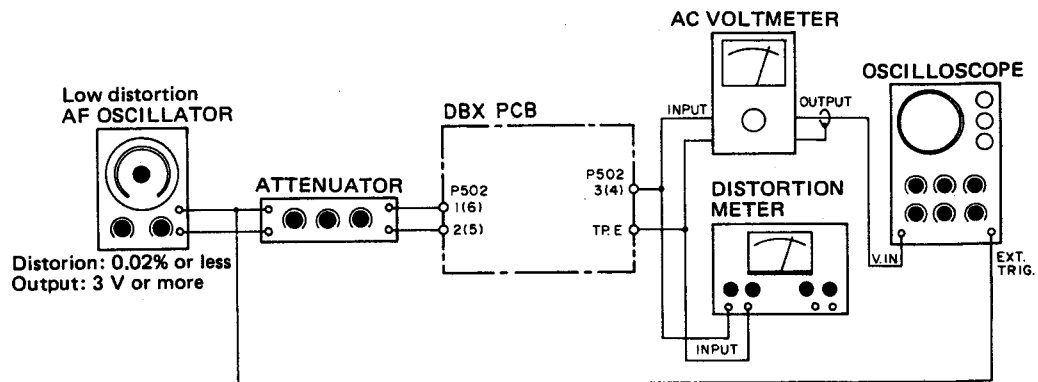


Fig. 5-10

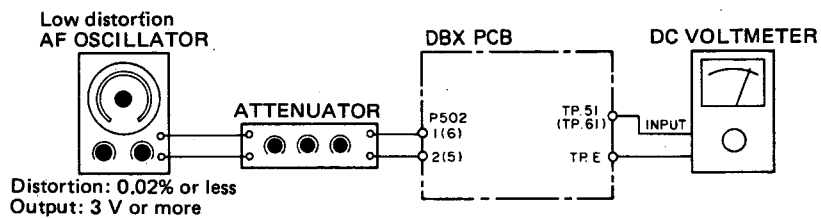


Fig. 5-11

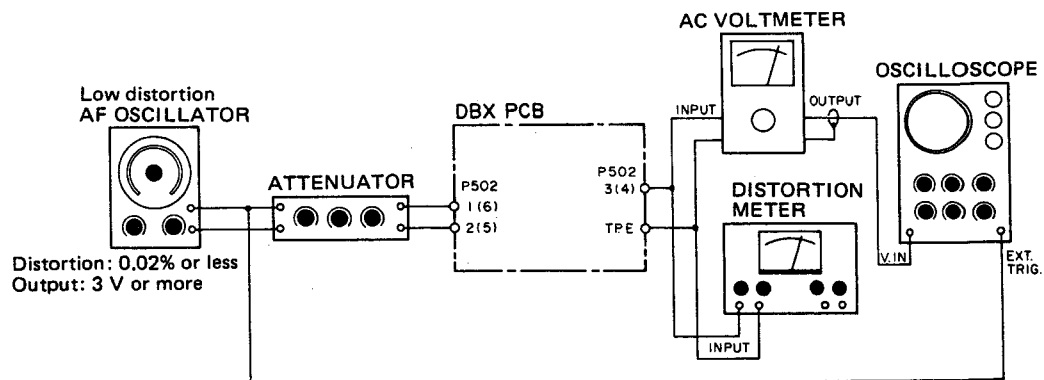


Fig. 5-12

## 5-6 ADJUSTMENT AND TEST POINT LOCATIONS

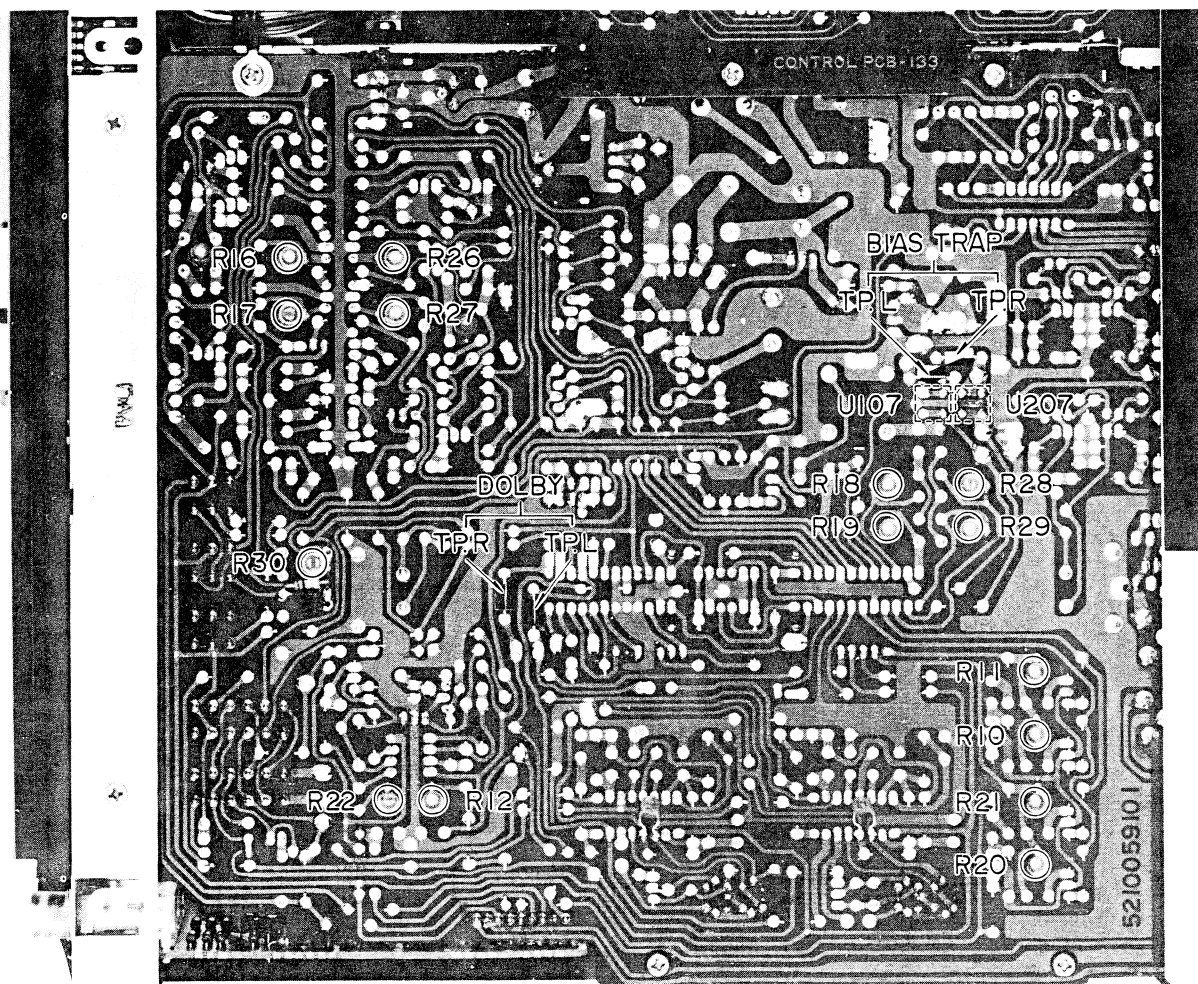


Fig. 5-13

R10/R20	Playback level [FWD]
R11/R21	Playback level [REV]
R12/R22	Peak program level meter
R16/R26	Record level [FWD]
R17/R27	Record level [REV]
R18/R28	Record bias [FWD]
R19/R29	Record bias [REV]
R30	Record bias [NORMAL]
U107/U207	Bias trap



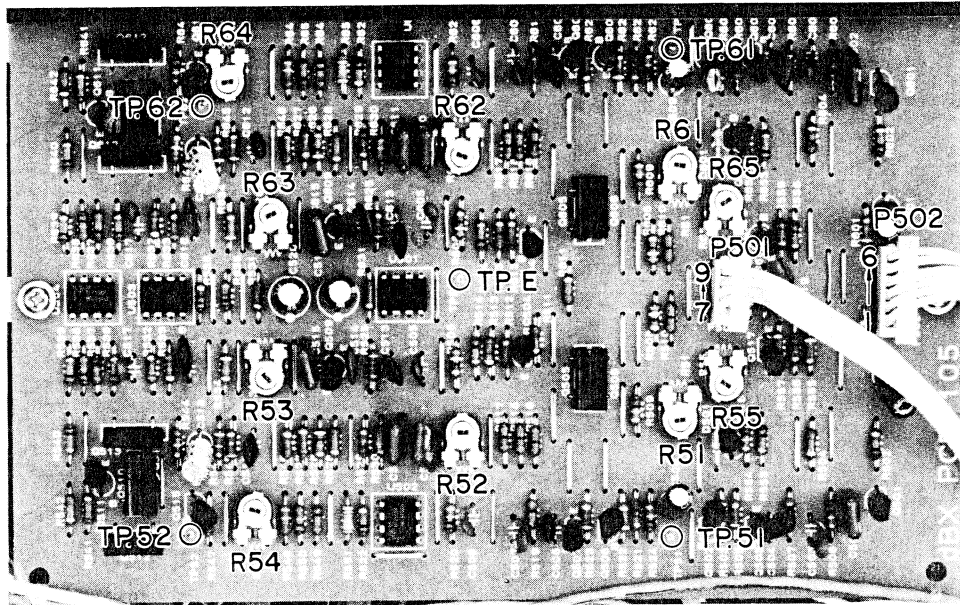
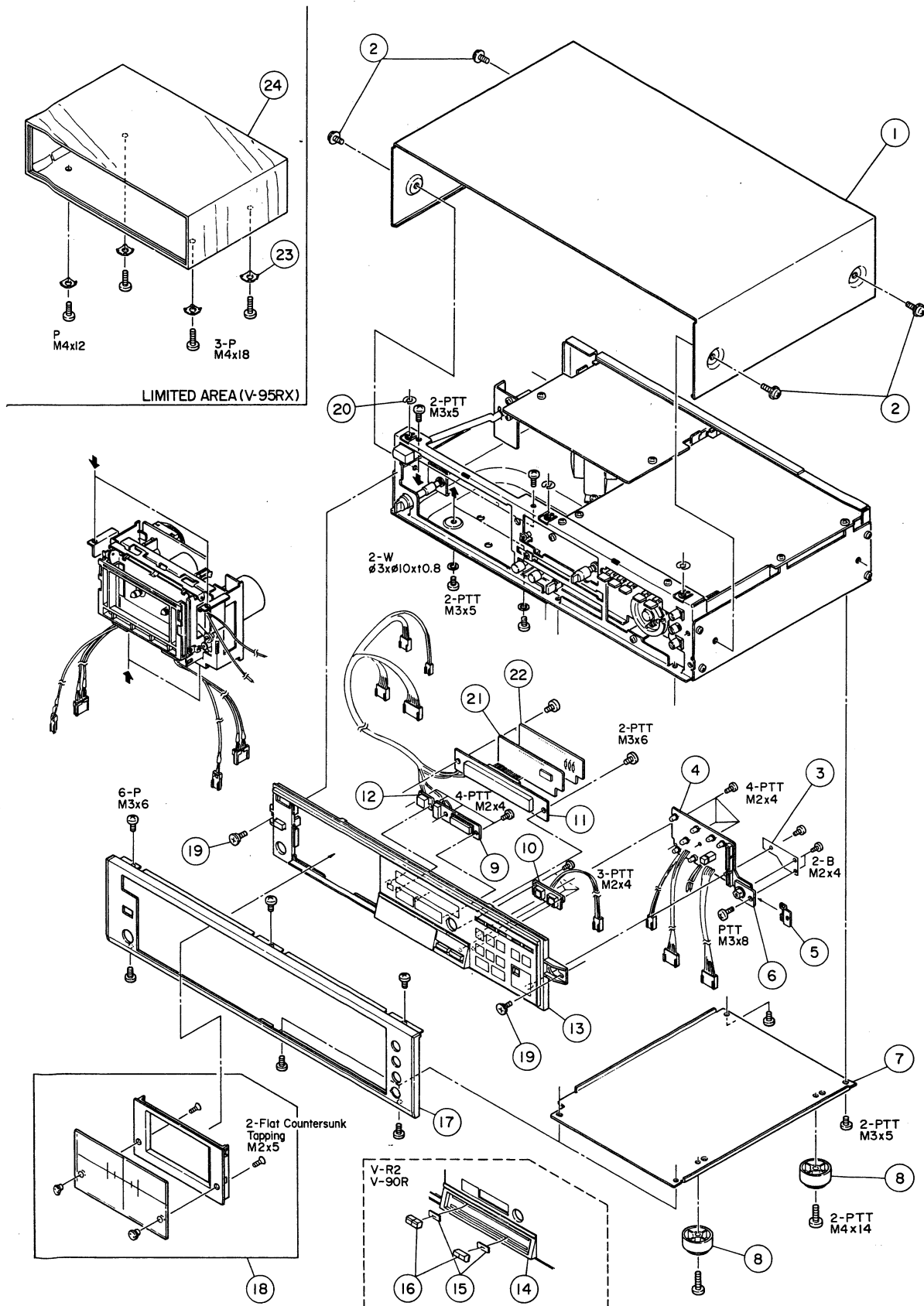


Fig. 5-14

R51/R61	VCA SYM adjustment
R52/R62	EM adjustment
R53/R63	RMS SYM adjustment
R54/R64	Encoding level
R55/R65	Decoding level

## 6 EXPLODED VIEWS AND PARTS LIST

EXPLODED VIEW-1



Parts marked with \*require longer delivery time.

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
1 - 1	*5800155300	Cover, Top	V-3RX
1 - 2	*5783084008	Screw, M4 x 8 (BLK Ni)	
1 - 3	*5800318402	Plate, Shield	Part of 1-4
1 - 4	*5200060600	PCB Assy, OPERATION SW [All except US, C]	V-95RX, V-R1
	*5200060610	PCB Assy, OPERATION SW [US, C]	V-95RX
	*5200060620	PCB Assy, OPERATION SW [All except US, C]	V-90R, V-R2
	*5200060630	PCB Assy, OPERATION SW	V-90R
1 - 5	*5800241600	Angle, Socket	
1 - 6	*5800305500	Plate, Socket	
1 - 7	*5800239801	Chassis, Bottom [All except L]	
	*5800244400	Chassis, Bottom [L]	
1 - 8	*5730002500	Foot, Q	
1 - 9	*5200060800	PCB Assy, 7 seg. LED	V-95RX/V-R1
	*5200060810	PCB Assy, 7 seg. LED	V-90R/V-R2
1 -10	*5200059900	PCB Assy, UP DOWN SW [All except US, C]	V-95RX/V-R1
	*5200059910	PCB Assy, UP DOWN SW [US, C]	V-95RX
1 -11	5296004100	Meter Assy, LED	
1 -12	*5200060900	PCB Assy, DBX LED	V-95RX/V-R1
1 -13	*5640027900	Key Unit Sub-Assy	V-95RX/V-R1
1 -14	*5640027910	Key Unit Sub-Assy	V-90R/V-R2
1 -15	*5800327100	Spacer, Slide VR	V-90R/V-R2
1 -16	5800243700	Knob, Slide VR	V-90R/V-R2
1 -17	*5640027800	Panel Assy, Front [J]	V-R1
	*5640027810	Panel Assy, Front [All except J]	V-95RX
	*5640027820	Panel Assy, Front [J]	V-R2
	*5640027830	Panel Assy, Front [All except J]	V-90R
1 -18	5640028000	Cover Assy, Cassette	V-95RX/V-R1
	5640028010	Cover Assy, Cassette	V-90R/V-R2
1 -19	*5581057000	Screw, Shoulder; B	
1 -20	*5786140400	Ring, Clip	
1 -21	*5200059700	PCB Assy, LEVEL METER; A [All except US, C]	
	*5200059710	PCB Assy, LEVEL METER; A [US, C]	
1 -22	*5200059800	PCB Assy, LEVEL METER; B [All except US, C]	
	*5200059810	PCB Assy, LEVEL METER; B [US, C]	
1 -23	*5555526000	Washer [L]	V-95RX
1 -24	*5800244200	Cabinet Assy [L]	V-95RX

## INCLUDED ACCESSORIES

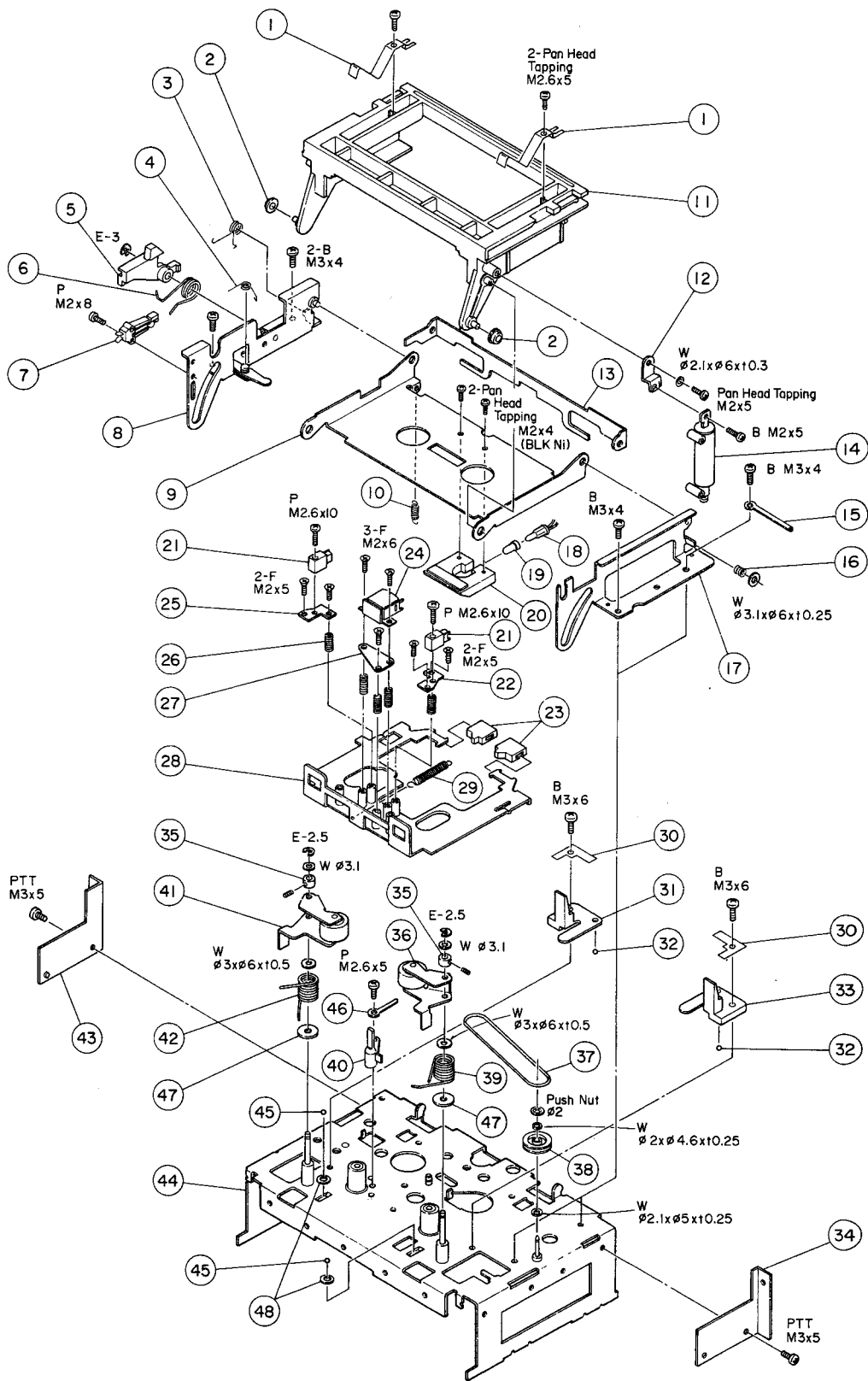
REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
	5700023200	V-95RX Owner's Manual [US]	
	5700023300	V-95RX Owner's Manual [All except US, J]	
	5700023100	V-1RX Owner's Manual [J]	
	5700023500	V-90R Owner's Manual [US]	
	5700023600	V-90R Owner's Manual [All except US, J]	
	5700023400	V-R2 Owner's Manual [J]	
	5101345000	Information Supplement [US]	
	5101495000	Information Supplement [All except US]	
	5744018500	Remote Control Unit, RC-95 [L, J]	
	5128065000	Cord Assy, In-output	V-95RX/V-R1

[US]: U.S.A.    [C]: CANADA    [GE]: GENERAL EXPORT    [E]: EUROPE    [UK]: U.K.  
[A]: AUSTRALIA    [J]: JAPAN    [L]: LIMITED AREA

### EXPLODED VIEW-2 (OLDER TYPE)

V-95RX: Ser. No. 2440 and before

V-90R: Ser. No. 3470 and before

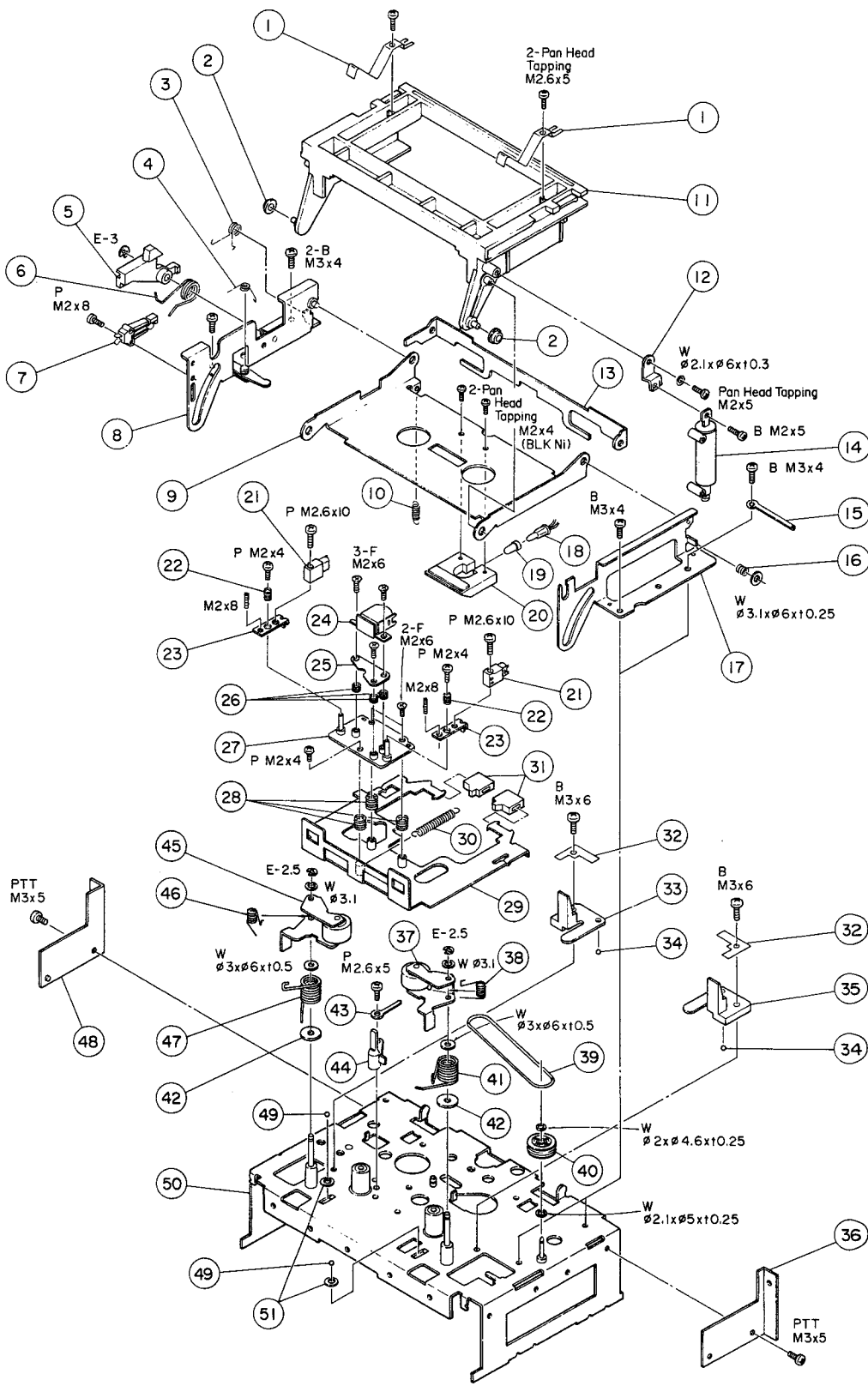


Parts marked with \*require longer delivery time.

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
2 - 1	*5760210500	Spring, Cassette Pressure; B	
2 - 2	*5760209800	Sleeve, Holder	
2 - 3	*5760211800	Spring, Lever	
2 - 4	*5760212000	Spring, Lock Lever	
2 - 5	*5760210000	Lever, Cassette Lock	
2 - 6	*5760212100	Spring, Eject Lever	
2 - 7	5760213600	Switch, Skeleton	
2 - 8	*5760209500	Guide Assy, Holder; L	
2 - 9	*5760210400	Plate, Cassette Holder	
2 - 10	*5760211900	Spring, Holder Plate; B	
2 - 11	*5760209400	Holder Assy, Cassette	
2 - 12	*5760210300	Bracket, Damper	
2 - 13	*5760210100	Lever, Cassette Pressure	
2 - 14	*5760210200	Damper Assy	
2 - 15	*5760210900	Clamper, Cord	
2 - 16	*5760212200	Spring, Pressure Lever	
2 - 17	*5760209600	Guide Assy, Holder; R	
2 - 18	5760214000	Lamp	
2 - 19	*5760210800	Cap, Lamp; G80	
2 - 20	*5760210600	Plate, Illumination	
2 - 21	5378901700	Head, Erase	
2 - 22	*5760169800	Bracket, Erase Head; B	
2 - 23	*5760168800	Shoe, Brake	
2 - 24	5378901500	Head, REC/PLAY	
2 - 25	*5760169900	Bracket, Erase Head	
2 - 26	*5760211500	Spring, Head Alignment	
2 - 27	*5760167600	Plate, Head	
2 - 28	*5760169600	Plate Assy, Head Base	
2 - 29	*5760211300	Spring, Head Base Plate	
2 - 30	*5760167900	Spring, Base Plate Pressure	
2 - 31	*5760167800	Guide, Cassette; B	
2 - 32	*5760212900	Steel Ball, $\phi 2.5$	
2 - 33	*5760167700	Guide, Cassette; A	
2 - 34	*5800241500	Bracket, Mechanism Chassis; R	
2 - 35	*5760209300	Column, Adjusting	
2 - 36	5760166500	Arm B Assy, Pinch Roller; F	
2 - 37	5760166300	Belt	
2 - 38	5800307801	Pulley, Counter	
2 - 39	*5760211000	Spring, Pinch Roller; F	
2 - 40	*5760213900	Sensor Assy	
2 - 41	5760166400	Arm Assy, Pinch Roller; R	
2 - 42	*5760211100	Spring, Pinch Roller; R	
2 - 43	*5800241400	Bracket, Mechanism Chassis; L	
2 - 44	*5760169500	Chassis Assy, Mechanism	
2 - 45	*5760212800	Steel Ball, $\phi 2$	
2 - 46	*5760209700	Clamper, Cord	
2 - 47	*5760212500	Washer, $\phi 6.1 \times \phi 10 \times t0.3$	
2 - 48	*5760212600	Washer, $\phi 2.4 \times \phi 6 \times t0.3$	

**EXPLODED VIEW-2 (NEWNER TYPE)**

V-95RX: Ser. No. 2441 and after  
V-90R: Ser. No. 3471 and after



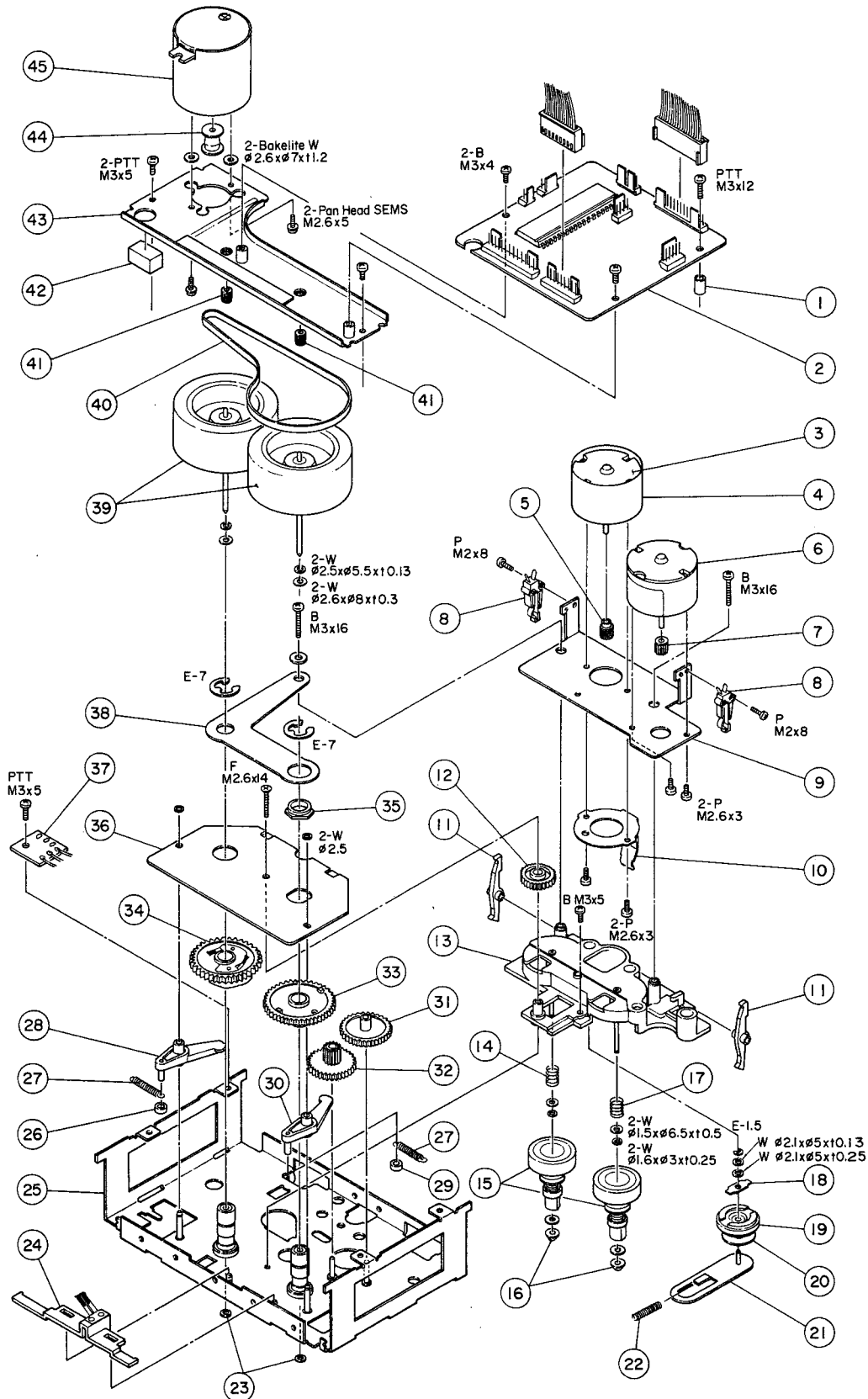
Parts marked with \*require longer delivery time.

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
2 - 1	*5760210500	Spring, Cassette Pressure; B	
2 - 2	*5760209800	Sleeve, Holder	
2 - 3	*5760211800	Spring, Lever	
2 - 4	*5760212000	Spring, Lock Lever	
2 - 5	*5760210000	Lever, Cassette Lock	
2 - 6	*5760212100	Spring, Eject Lever	
2 - 7	5760213600	Switch, Skeleton	
2 - 8	*5760209500	Guide Assy, Holder; L	
2 - 9	*5760210400	Plate, Cassette Holder	
2 - 10	*5760211900	Spring, Holder Plate; B	
2 - 11	*5760209400	Holder Assy, Cassette	
2 - 12	*5760210300	Bracket, Damper	
2 - 13	*5760210100	Lever, Cassette Pressure	
2 - 14	*5760210200	Damper Assy	
2 - 15	*5760210900	Clamper, Cord	
2 - 16	*5760212200	Spring, Pressure Lever	
2 - 17	*5760209600	Guide Assy, Holder; R	
2 - 18	5760214000	Lamp	
2 - 19	*5760210800	Cap, Lamp; G80	
2 - 20	*5760210600	Plate, Illumination	
2 - 21	5378901700	Head, Erase	
2 - 22	*5800356800	Spring, Erase Head Bracket	
2 - 23	*5800356700	Bracket, Erase Head	
2 - 24	5378901500	Head, REC/PLAY	
2 - 25	*5760167600	Plate, Head	
2 - 26	*5800356600	Spring, REC/PLAY Head	
2 - 27	*5800356400	Plate Assy, Head Mounting	
2 - 28	*5800356500	Spring, Head Mounting Plate	
2 - 29	*5760169601	Plate Assy, Head Base; A	
2 - 30	*5760211301	Spring, Head Base	
2 - 31	*5760168800	Shoe, Brake	
2 - 32	*5760167900	Spring, Base Plate Pressure	
2 - 33	*5760167800	Guide, Cassette; B	
2 - 34	*5760212900	Steel Ball, $\phi$ 2.5	
2 - 35	*5760167700	Guide, Cassette; A	
2 - 36	*5800241500	Bracket, Mechanism Chassis; R	
2 - 37	5760166501	Arm B Assy, Pinch Roller; F	
2 - 38	*5800357800	Spring, Pinch Roller F; B	
2 - 39	5760166300	Belt	
2 - 40	5800307801	Pulley, Counter	
2 - 41	*5800357600	Spring, Pinch Roller F; A	
2 - 42	*5760212500	Washer, $\phi$ 6.1 x $\phi$ 10 x t0.3	
2 - 43	*5760209700	Clamper, Cord	
2 - 44	*5760213900	Sensor Assy	
2 - 45	5760166401	Arm B Assy, Pinch Roller; R	
2 - 46	*5800357900	Spring, Pinch Roller R; B	
2 - 47	*5800357700	Spring, Pinch Roller R; A	
2 - 48	*5800241400	Bracket, Mechanism Chassis; L	
2 - 49	*5760212800	Steel Ball, $\phi$ 2	
2 - 50	*5760169501	Chassis Assy, Mechanism	
2 - 51	*5760212600	Washer, $\phi$ 2.4 x $\phi$ 6 x t0.3	

## EXPLODED VIEW-3 (OLDER TYPE)

V-95RX: Ser. No. 2440 and before

V-90R: Ser. No. 3470 and before



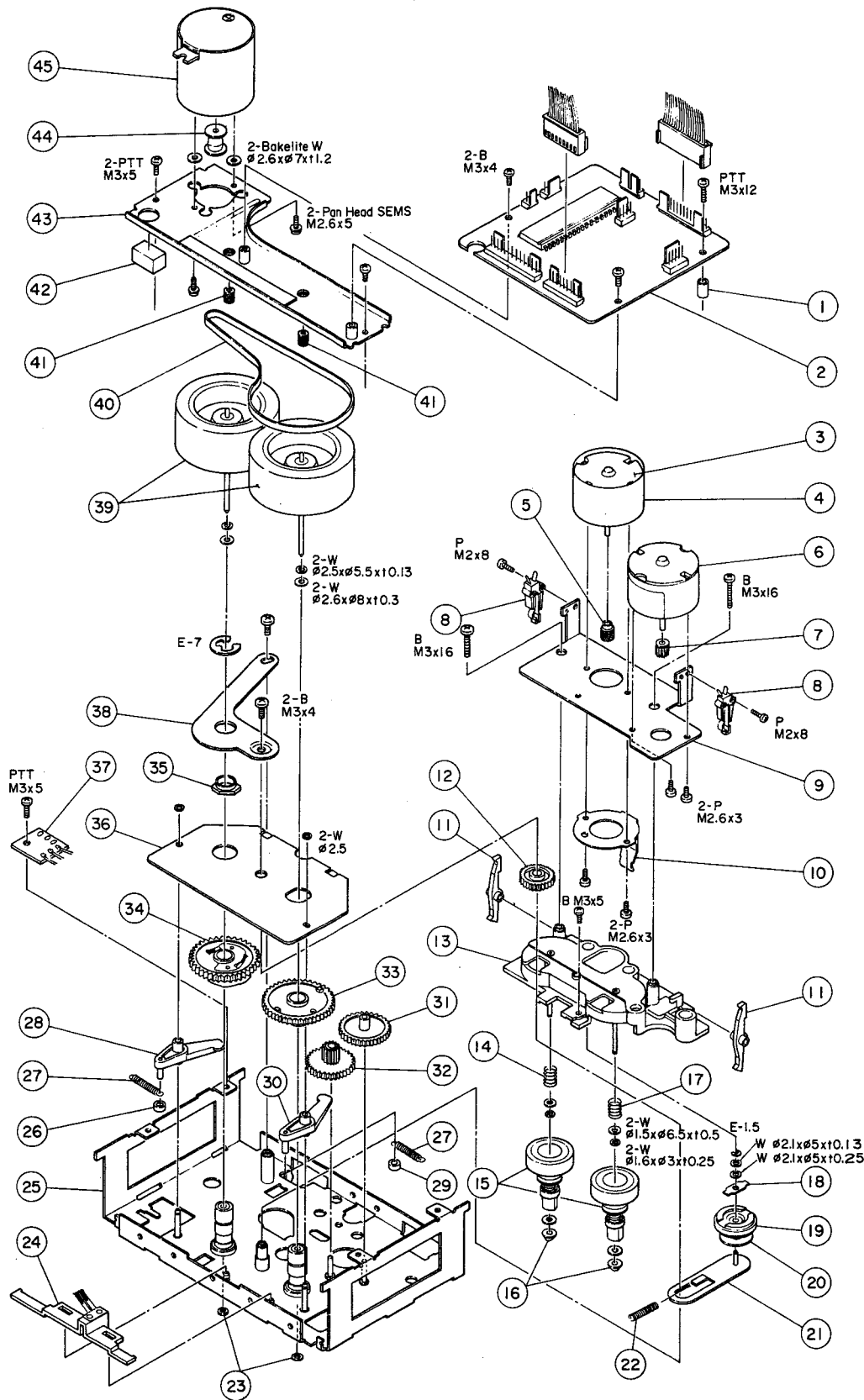


Parts marked with \*require longer delivery time.

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
3 - 1	*5760169400	Stud, PCB; B	
3 - 2	*5760215800	PCB Assy, CONTROL	
3 - 3	5760214700	Motor, Reel	
3 - 4	*5800235900	Plate, Shield	
3 - 5	5760214800	Pulley, Reel Motor; B	
3 - 6	5760214900	Motor, Mechanism	
3 - 7	5760215000	Pinion	
3 - 8	5760213600	Switch, Skeleton	
3 - 9	*5760169100	Bracket, Motor	
3 - 10	*5760209900	Spring, Cassette Pressure	
3 - 11	*5760168700	Lever, REC	
3 - 12	5760168600	Gear, Relay	
3 - 13	*5760167300	Sub-Chassis Assy	
3 - 14	*5760211600	Spring, Back Tension	
3 - 15	5760166600	Table Assy, Reel; T	
3 - 16	5760168900	Cap, Reel Table Shaft	
3 - 17	*5760211700	Spring, Back Tension; C	
3 - 18	*5760214300	Spring, Idler	
3 - 19	5760214400	Idler Assy, FR	
3 - 20	*5760214200	Washer, Felt	
3 - 21	*5760214100	Plate Assy, Idler	
3 - 22	*5760211400	Spring, Plate Assy; B	
3 - 23	*5760212600	Washer, Nylon	
3 - 24	*5760167400	Lever Assy, Direction	
3 - 25	*5760169500	Chassis Assy, Mechanism	
3 - 26	*5800358600	Collar, Pinch Arm; F	
3 - 27	*5760211200	Spring, Pinch Roller Actuating	
3 - 28	*5760168000	Lever, Pinch Roller Actuating; F	
3 - 29	*5800358700	Collar, Pinch Arm; R	
3 - 30	*5760168100	Lever, Pinch Roller Actuating; R	
3 - 31	5760168200	Gear, 2nd	
3 - 32	5760168300	Gear, 3rd	
3 - 33	5760168400	Cam, R	
3 - 34	5760167500	Cam Assy, F	
3 - 35	*5760169300	Column, Eccentric	
3 - 36	*5760216100	PCB Assy, CAM	
3 - 37	*5760216000	PCB Assy, JOINT	
3 - 38	*5760168500	Plate, Adjusting	
3 - 39	5760167100	Flywheel Assy	
3 - 40	5760166700	Belt, Capstan Drive	
3 - 41	*5760169200	Screw, Thrust	
3 - 42	*5760169000	Cushion	
3 - 43	*5760169700	Bracket Assy, Main Motor	
3 - 44	5760215200	Pulley, Main Motor	
3 - 45	5760215100	Motor, Main	

EXPLODED VIEW-3 (NEWER TYPE)

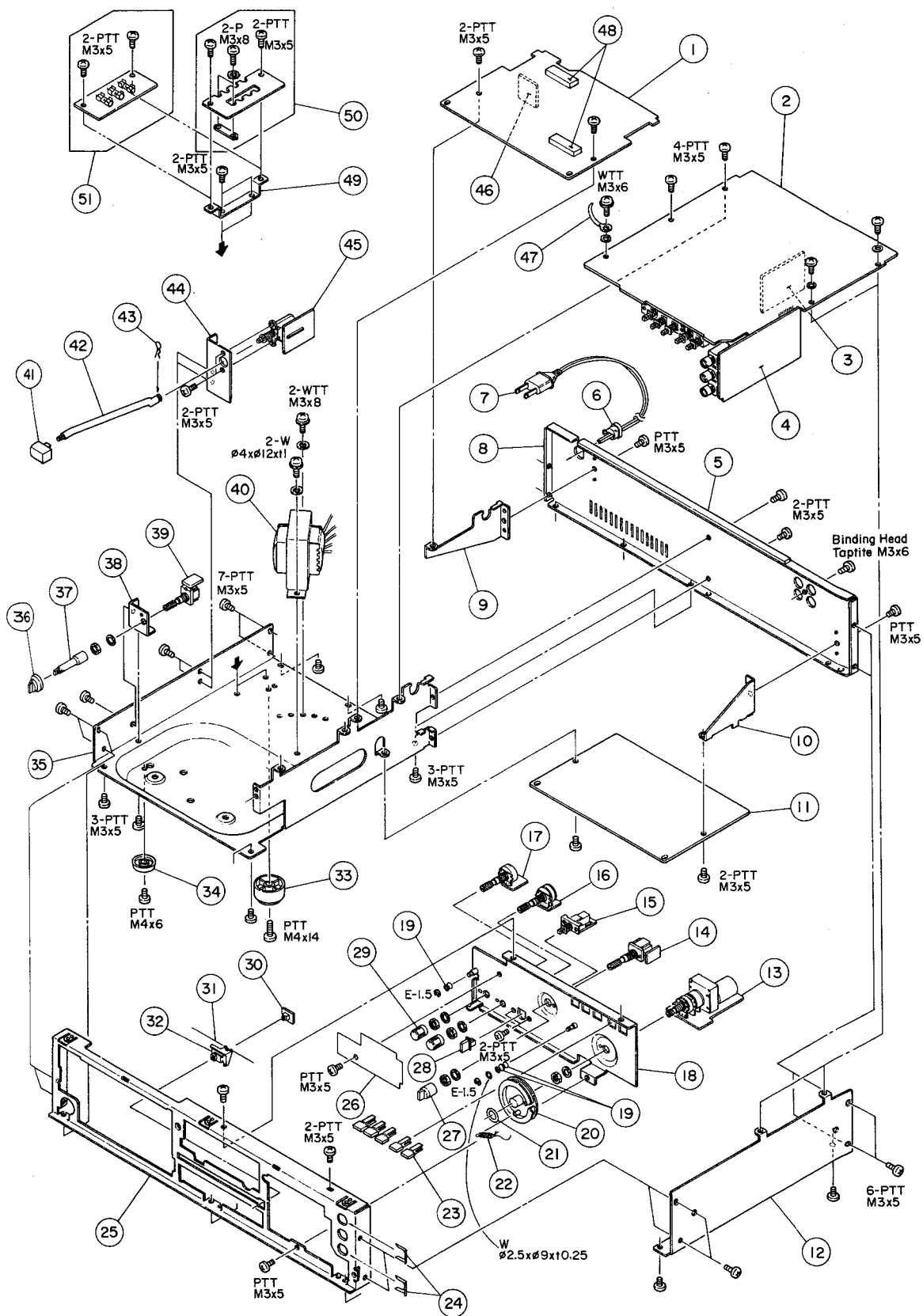
V-95RX: Ser. No. 2441 and after  
V-90R: Ser. No. 3471 and after



Parts marked with \*require longer delivery time.

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
3 - 1	*5760169400	Stud, PCB; B	
3 - 2	*5760215800	PCB Assy, CONTROL	
3 - 3	5760214700	Motor, Reel	
3 - 4	*5800235900	Plate, Shield	
3 - 5	5760214800	Pulley, Reel Motor; B	
3 - 6	5760214900	Motor, Mechanism	
3 - 7	5760215000	Pinion	
3 - 8	5760213600	Switch, Skeleton	
3 - 9	*5760169100	Bracket, Motor	
3 - 10	*5760209900	Spring, Cassette Pressure	
3 - 11	*5760168700	Lever, REC	
3 - 12	5760168600	Gear, Relay	
3 - 13	*5760167300	Sub-Chassis Assy	
3 - 14	*5760211600	Spring, Back Tension	
3 - 15	5760166600	Table Assy, Reel; T	
3 - 16	5760168900	Cap, Reel Table Shaft	
3 - 17	*5760211700	Spring, Back Tension; C	
3 - 18	*5760214300	Spring, Idler	
3 - 19	5760214400	Idler Assy, FR	
3 - 20	*5760214200	Washer, Felt	
3 - 21	*5760214100	Plate Assy, Idler	
3 - 22	*5760211400	Spring, Plate Assy; B	
3 - 23	*5760212600	Washer, Nylon	
3 - 24	*5760167400	Lever Assy, Direction	
3 - 25	*5760169500	Chassis Assy, Mechanism	
3 - 26	*5800358600	Collar, Pinch Arm; F	
3 - 27	*5760211200	Spring, Pinch Roller Actuating	
3 - 28	*5760168000	Lever, Pinch Roller Actuating; F	
3 - 29	*5800358700	Collar, Pinch Arm; R	
3 - 30	*5760168100	Lever, Pinch Roller Actuating; R	
3 - 31	5760168200	Gear, 2nd	
3 - 32	5760168300	Gear, 3rd	
3 - 33	5760168400	Cam, R	
3 - 34	5760167500	Cam Assy, F	
3 - 35	*5760169301	Column, Eccentric	
3 - 36	*5760216100	PCB Assy, CAM	
3 - 37	*5760216000	PCB Assy, JOINT	
3 - 38	*5760168501	Plate, Adjusting	
3 - 39	5760167100	Flywheel Assy	
3 - 40	5760166700	Belt, Capstan Drive	
3 - 41	*5760169200	Screw, Thrust	
3 - 42	*5760169000	Cushion	
3 - 43	*5760169701	Bracket Assy, Main Motor	
3 - 44	5760215200	Pulley, Main Motor	
3 - 45	5760215100	Motor, Main	

## EXPLODED VIEW-4 (V-95RX/V-R1)

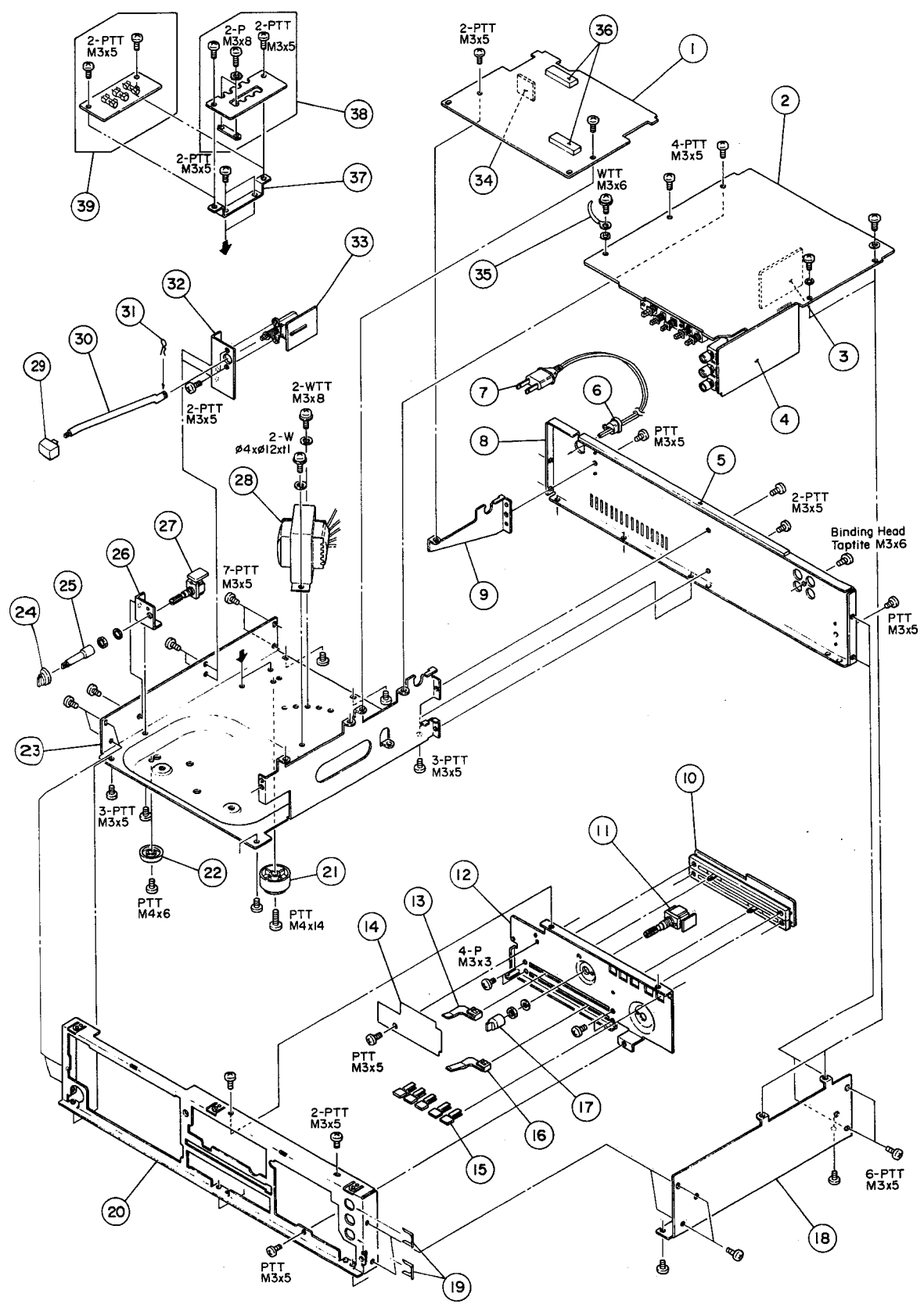


Parts marked with \*require longer delivery time.

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
4 - 1	*5200059500	PCB Assy, CONTROL [All except US, C]	
	*5200059510	PCB Assy, CONTROL [US, C]	
4 - 2	*5200059103	PCB Assy, REC/PLAY AMPL [All except US, C]	
	*5200059113	PCB Assy, REC/PLAY AMPL [US, C]	
4 - 3	*5200064200	PCB Assy, PLAYBACK AMPL [All except US, C]	
	*5200064210	PCB Assy, PLAYBACK AMPL [US, C]	
4 - 4	*5200059601	PCB Assy, MIC AMPL [All except US, C]	
	*5200059611	PCB Assy, MIC AMPL [US, C]	
4 - 5	*5555887001	Cushion, Top Cover	
4 - 6	*5534660000	Strain Relief, Cord; 4N-4 [All except UK]	
	*5534661000	Strain Relief, Cord; 4K-1 [UK]	
4 - 7	△*5128034000	Cord, AC Power [J, GE, L]	
	△*5128075000	Cord, AC Power [US, C]	
	△*5128047000	Cord, AC Power [UK]	
	△*5350008200	Cord, AC Power [E]	
	△*5350008300	Cord, AC Power [A]	
4 - 8	*5800240100	Panel, Rear	
4 - 9	*5800245301	Bracket, PCB; LG	
4 - 10	*5800153901	Bracket, DBX PCB; B	
4 - 11	*5200046100	PCB Assy, DBX	
4 - 12	*5800240001	Chassis, R	
4 - 13	*5200059200	PCB Assy, MOTOR VR [All except US, C]	
	*5200059210	PCB Assy, MOTOR VR [US, C]	
4 - 14	*5200060000	PCB Assy, REVERSE MODE SW [All except US, C]	
	*5200060010	PCB Assy, REVERSE MODE SW [US, C]	
4 - 15	*5200060200	PCB Assy, SPEED SW [All except US, C]	
	*5200060210	PCB Assy, SPEED SW [US, C]	
4 - 16	*5200060400	PCB Assy, OUTPUT VR [All except US, C]	
	*5200060410	PCB Assy, OUTPUT VR [US, C]	
4 - 17	*5200060301	PCB Assy, BALANCE VR [All except US, C]	
	*5200060311	PCB Assy, BALANCE VR [US, C]	
4 - 18	*5800239500	Chassis, VR; (1)	
4 - 19	*5800256500	Pulley	
4 - 20	*5800243900	Pulley, VR	
4 - 21	*5534681000	Ring, O	
4 - 22	*5524279000	Spring	
4 - 23	5800243001	Button, Switch	
4 - 24	*5800178500	Clip, Jack	
4 - 25	*5800239402	Chassis, Front	
4 - 26	*5800273700	Plate, Insulating	
4 - 27	5800160900	Knob, Auto Reverse	
4 - 28	*5800243400	Button, Fade Speed	
4 - 29	5800242900	Knob, VR	
4 - 30	*5200061000	PCB Assy, VOLUME IND.	
4 - 31	*5788202100	String	
4 - 32	*5800241700	Holder, LED	
4 - 33	*5730002500	Foot, Q	
4 - 34	*5730002400	Foot, D	
4 - 35	*5800239703	Chassis, L [All except L]	
	*5800244503	Chassis Assy, L [L]	
4 - 36	5800044300	Knob, Timer	
4 - 37	*5800154700	Rod, Joint	
4 - 38	*5800242000	Bracket, Rotary Switch	
4 - 39	*5200060100	PCB Assy, TIMER SW [All except US, C]	
	*5200060110	PCB Assy, TIMER SW [US, C]	
4 - 40	△*5320012100	Transformer, Power [J]	
	△*5320012200	Transformer, Power [US]	
	△*5320012300	Transformer, Power [GE, L]	
	△*5320012400	Transformer, Power [E, UK, A]	
	△*5320012500	Transformer, Power [C]	
4 - 41	5800242200	Button, Power	
4 - 42	*5534723000	Rod, Joint; A	
4 - 43	*5786360500	Pin, Snap	
4 - 44	*5800242100	Bracket, Power Switch	
4 - 45	*5200060500	PCB Assy, POWER SW [J]	
	*5200060510	PCB Assy, POWER SW [US]	
	*5200060520	PCB Assy, POWER SW [C]	
	*5200060530	PCB Assy, POWER SW [GE, L]	
	*5200060540	PCB Assy, POWER SW [E, UK, A]	
4 - 46	*5200078800	PCB Assy, SENSOR	
4 - 47	*5581038000	Clamper, Cord; A	
4 - 48	*5800349800	Cushion, A	
4 - 49	*5800213600	Bracket, SELECTOR PCB [GE, L, E, UK]	
4 - 50	*5200034900	PCB Assy, VOLTAGE SELECTOR [GE, L]	
4 - 51	*5200061201	PCB Assy, FUSE [E, UK]	

[US]: U.S.A. [C]: CANADA [GE]: GENERAL EXPORT [E]: EUROPE [UK]: U.K.  
[A]: AUSTRALIA [J]: JAPAN [L]: LIMITED AREA

EXPLODED VIEW-5 (V-90R/V-R2)



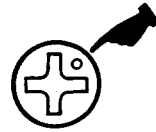
Parts marked with \*require longer delivery time.

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
5 - 1	*5200059520	PCB Assy, CONTROL [All except US, C]	
	*5200059530	PCB Assy, CONTROL [US, C]	
5 - 2	*5200059123	PCB Assy, REC/PLAY AMPL [All except US, C]	
	*5200059133	PCB Assy, REC/PLAY AMPL [US, C]	
5 - 3	*5200064200	PCB Assy, PLAYBACK AMPL [All except US, C]	
	*5200064210	PCB Assy, PLAYBACK AMPL [US, C]	
5 - 4	*5200059600	PCB Assy, MIC AMPL [All except US, C]	
	*5200059160	PCB Assy, MIC AMPL [US, C]	
5 - 5	*5555887001	Cushion, Top Cover	
5 - 6	*5534660000	Strain Relief, Cord; 4N-4 [All except UK]	
	*5534661000	Strain Relief, Cord; 4K-1 [UK]	
5 - 7	△*5128034000	Cord, AC Power [J, GE]	
	△*5128075000	Cord, AC Power [US, C]	
	△*5128047000	Cord, AC Power [UK]	
	△*5350008200	Cord, AC Power [E]	
	△*5350008300	Cord, AC Power [A]	
5 - 8	*5800240100	Panel, Rear	
5 - 9	*5800245301	Bracket, PCB; LG	
5 - 10	*5200059300	PCB Assy, SLIDE VR [All except US, C]	
	*5200059310	PCB Assy, SLIDE VR [US, C]	
5 - 11	*5200060000	PCB Assy, REVERSE MODE SW [All except US, C]	
	*5200060010	PCB Assy, REVERSE MODE SW [US, C]	
5 - 12	*5800239601	Chassis, VR; 2	
5 - 13	*5800242600	Lever, Slide VR; 1	
5 - 14	*5800273700	Plate, Insulating	
5 - 15	5800243001	Button, Switch	
5 - 16	*5800242700	Lever, Slide VR; 2	
5 - 17	5800160900	Knob, Auto Reverse	
5 - 18	*5800240001	Chassis, R	
5 - 19	*5800178500	Clip, Jack	
5 - 20	*5800239402	Chassis, Front	
5 - 21	*5730002500	Foot, Q	
5 - 22	*5730002400	Foot, D	
5 - 23	*5800239703	Chassis, L	
5 - 24	5800044300	Knob, Timer	
5 - 25	*5800154700	Rod, Joint	
5 - 26	*5800242000	Bracket, Rotary Switch	
5 - 27	*5200060100	PCB Assy, TIMER SW [All except US, C]	
	*5200060110	PCB Assy, TIMER SW [US, C]	
5 - 28	△*5320012100	Transformer, Power [J]	
	△*5320012200	Transformer, Power [US]	
	△*5320012300	Transformer, Power [GE]	
	△*5320012400	Transformer, Power [E, UK, A]	
	△*5320012500	Transformer, Power [C]	
5 - 29	5800242200	Button, Power	
5 - 30	*5534723000	Rod, Joint; A	
5 - 31	*5786360500	Pin, Snap	
5 - 32	*5800242100	Bracket, Power Switch	
5 - 33	*5200060500	PCB Assy, POWER SW [J]	
	*5200060510	PCB Assy, POWER SW [US]	
	*5200060520	PCB Assy, POWER SW [C]	
	*5200060530	PCB Assy, POWER SW [GE]	
	*5200060540	PCB Assy, POWER SW [E, UK, A]	
5 - 34	*5200078800	PCB Assy, SENSOR	
5 - 35	*5581038000	Clamper, Cord; A	
5 - 36	*5800349800	Cushion, A	
5 - 37	*5800213600	Bracket, SELECTOR PCB [GE, E, UK]	
5 - 38	*5200034900	PCB Assy, VOLTAGE SELECTOR [GE]	
5 - 39	*5200061201	PCB Assy, FUSE [E, UK]	

[US]: U.S.A. [C]: CANADA [GE]: GENERAL EXPORT [E]: EUROPE [UK]: U.K.  
[A]: AUSTRALIA [J]: JAPAN

**ASSEMBLING HARDWARE CODING LIST**

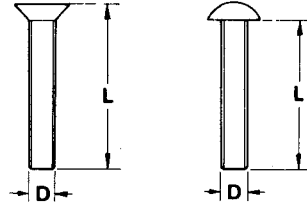
All screws conform to ISO standards, and have crossrecessed heads, unless otherwise noted. ISO screws have the head inscribed with a point as in the figure to the right.



FOR EXAMPLE:

B M3 x 6

----- Length in mm (L)  
 ----- Diameter in mm (D) \*  
 ----- Metric System  
 ----- Nomenclature

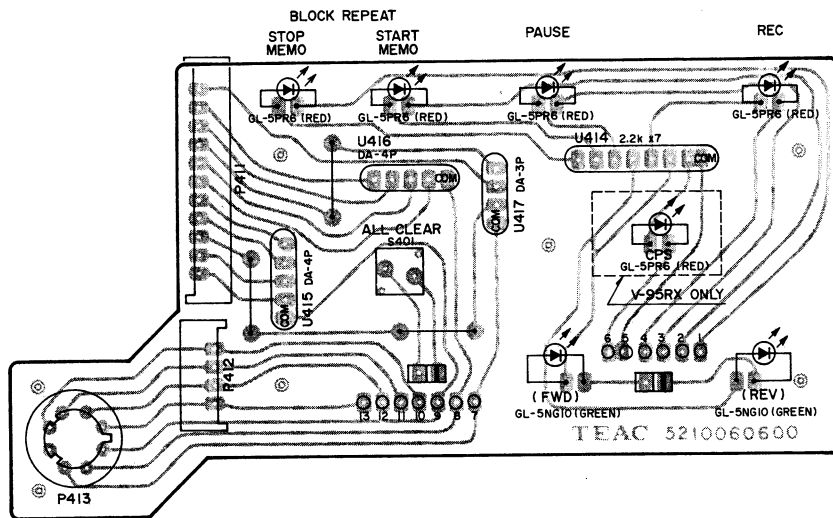


\* Inner dia. for washers and nuts

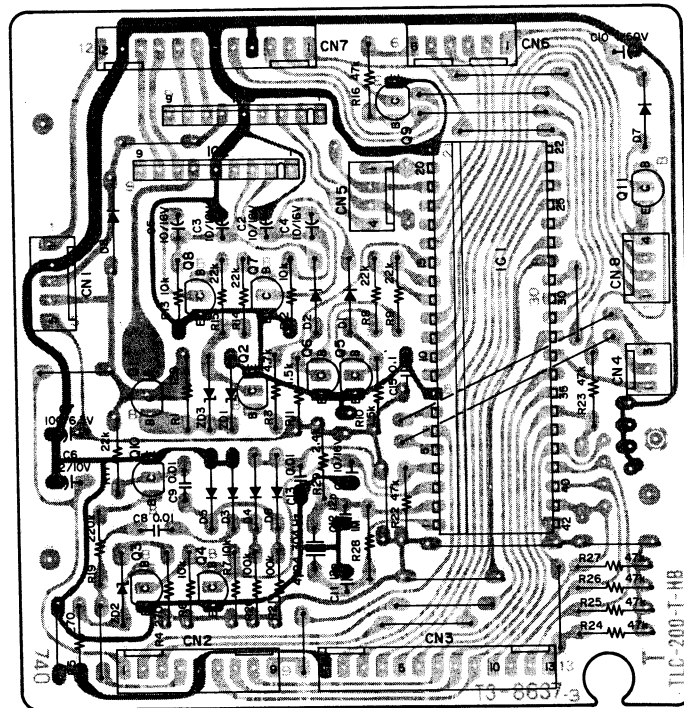
	Code	Name	Type		Code	Name	Type
MACHINE SCREW	<b>R</b>	Round Head Screw		TAPPING SCREW	<b>BTA</b>	Binding Head Tapping Screw(A Type)	
	<b>P</b>	Pan Head Screw			<b>BTB</b>	Binding Head Tapping Screw(B Type)	
	<b>T</b>	Stove Head Screw (Truss)			<b>RTA</b>	Round Head Tapping Screw(A Type)	
	<b>B</b>	Binding Head Screw			<b>RTB</b>	Round Head Tapping Screw(B Type)	
	<b>F</b>	Flat Countersunk Head Screw		SETSCREW	<b>SF</b>	Hex Socket Setscrew(Flat Point)	
	<b>O</b>	Oval Countersunk Head Screw			<b>SC</b>	Hex Socket Setscrew(Cup Point)	
WOOD SCREW	<b>RW</b>	Round Head Wood Screw			<b>SS</b>	Slotted Socket Setscrew(Flat Point)	
TAPTITE SCREW	<b>PTT</b>	Pan Head Taptite Screw		WASHER	<b>E</b>	E-Ring (Retaining Washer)	
	<b>WTT</b>	Washer Head Taptite Screw			<b>W</b>	Flat Washer (Plain)	
SEMS SCREW	<b>BSA</b>	Binding Head SEMS Screw(A Type)			<b>SW</b>	Lock Washer (Spring)	
	<b>BSB</b>	Binding Head SEMS Screw(B Type)			<b>LWI</b>	Lock Washer (Internal Teeth)	
	<b>BSF</b>	Binding Head SEMS Screw(F Type)			<b>LWE</b>	Lock Washer (External Teeth)	
	<b>PSA</b>	Pan Head SEMS Screw(A Type)			<b>TW</b>	Trim Washer (Countersunk)	
	<b>PSB</b>	Pan Head SEMS Screw(B Type)		NUT	<b>N</b>	Hex Nut	

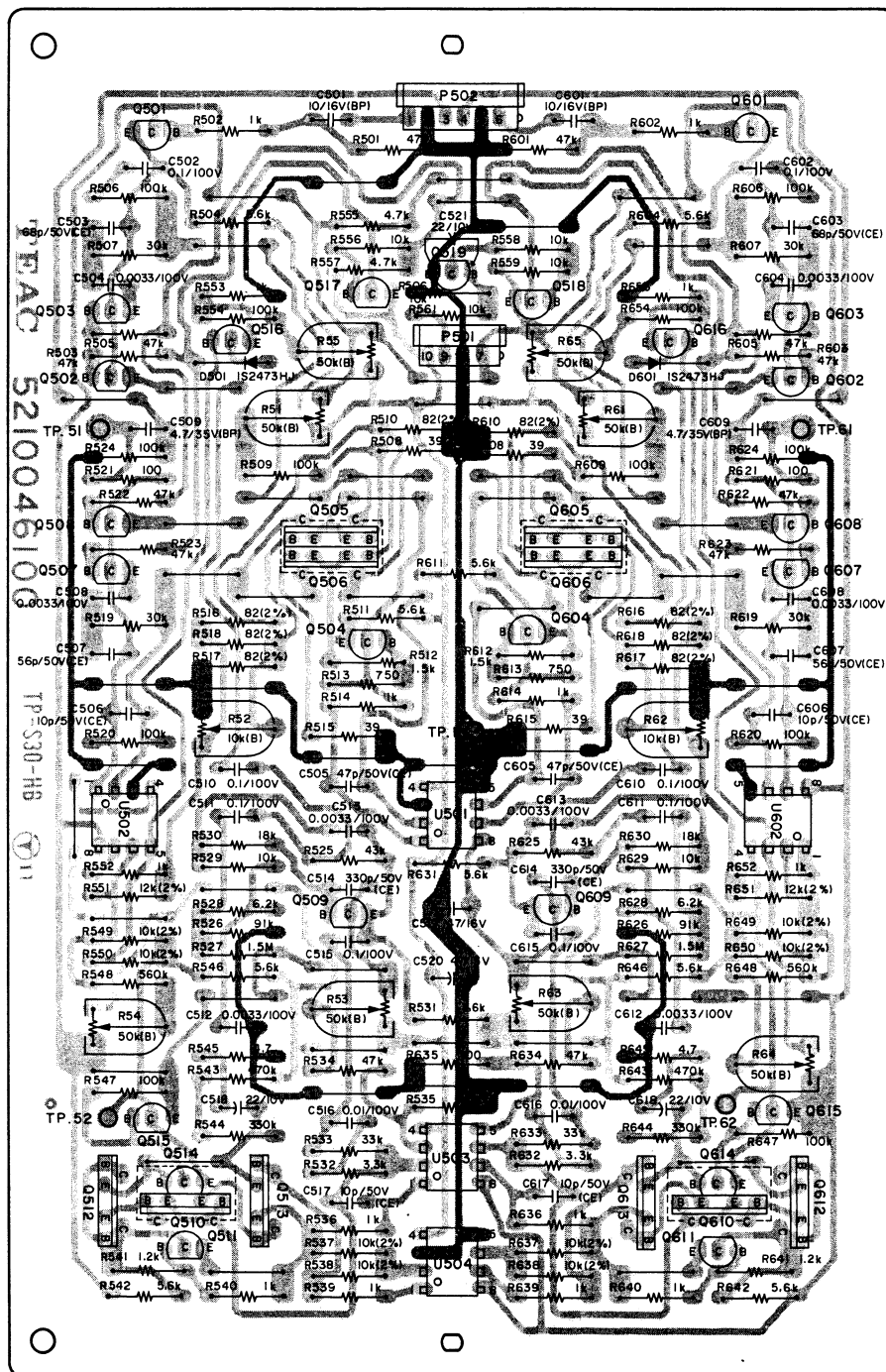


OPERATION SW PCB ASSY



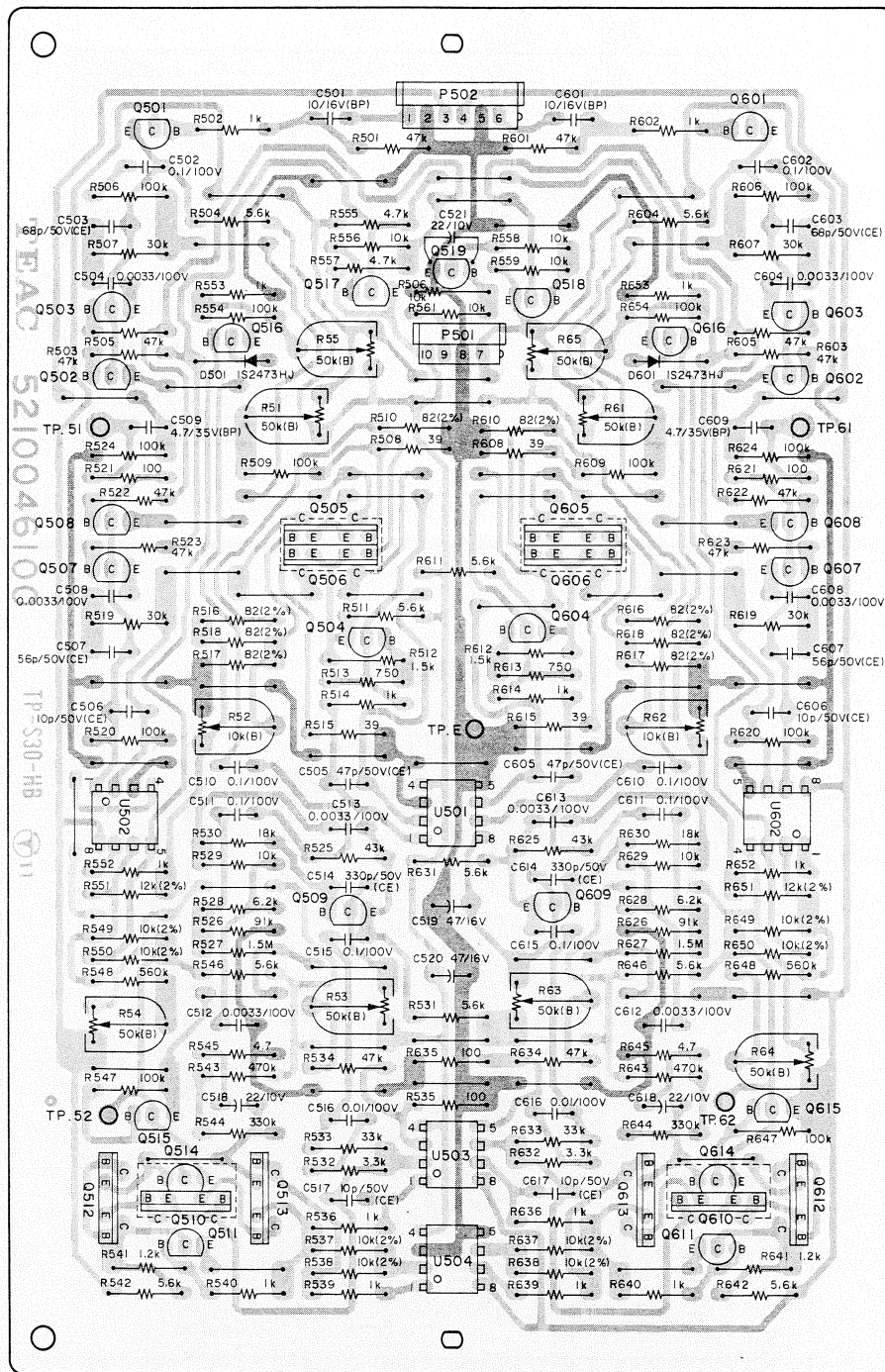
CONTROL PCB ASSY



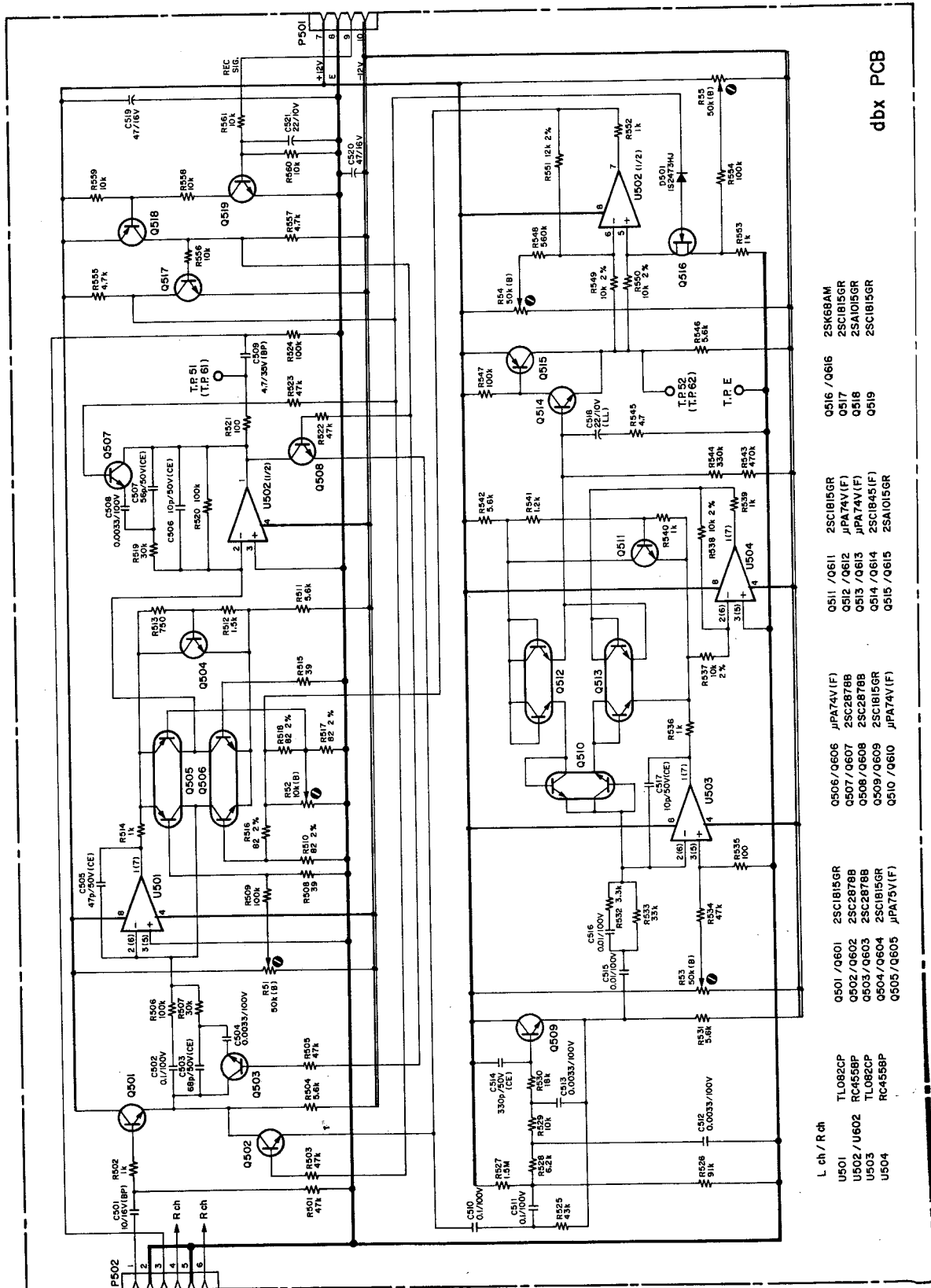
**DBX PCB ASSY (V-95RX only)**



## DBX PCB ASSY (V-95RX only)



## SCHEMATIC DIAGRAM (DBX) (V-95RX only)



## REC/PLAY AMPL PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	5200059103	PCB Assy (V-95RX/V-R1) [All except US, C]
	5200059113	PCB Assy (V-95RX/V-R1) [US, C]
	5200059123	PCB Assy (V-90R/V-R2) [All except US, C]
	5200059133	PCB Assy (V-90R/V-R2) [US, C]
	5210059101	PCB [All except US, C]
	5210062401	PCB [US, C]
<b>IC's</b>		
U102, U202	5220412600	TA7629P
U105	5220019400	TC4069 UBP (V-95RX/V-R2)
U106	5220414300	NJM4560D
U301	△ 5220413000	NJM78M12A
U302	△ 5220413800	NJM79M12A
U303	△ 5147058000	NJM78M05A
<b>TRANSISTORS</b>		
Q101, Q201	5230777200	KTN5014GR
Q102, Q202	5230777200	KTN5014GR
Q103, Q203	5230775000	2SC2878B
Q104	5145150000	2SA1015GR
Q105, Q205	5230777200	KTN5014GR
Q106, Q206	5145102000	FET 2SK68AL
Q108	5230777200	KTN5014GR
Q109	5230777200	KTN5014GR
Q110, Q210	5230777200	KTN5014GR
Q111, Q211	5230777200	KTN5014GR
Q112, Q212	5230777200	KTN5014GR
Q113, Q213	5230777200	KTN5014GR
Q114, Q214	5230777200	KTN5014GR
Q115, Q215	5230777200	KTN5014GR
Q116	5230777200	KTN5014GR
Q117	5231755500	2SD985
Q118	5145150000	2SA1015GR
Q119, Q219	5230777200	KTN5014GR
Q120, Q220	5230777200	KTN5014GR
Q301	△ 5231755500	2SD985
Q302	5145084000	2SA934Q
Q303	5145084000	2SA934Q
Q304	5231758500	2SD1140
Q305	5231758500	2SD1140
Q306	5145084000	2SA934Q
Q307	5145084000	2SA934Q
Q308	5231758500	2SD1140
Q309	5231758500	2SD1140
Q314	△ 5231755500	2SD985
Q315	△ 5145088000	2SD313F
Q316	5230777200	KTN5014GR
Q318	5230777200	KTN5014GR (V-90R/V-R2)
Q319	5230777200	KTN5014GR (V-90R/V-R2)
<b>DIODES</b>		
D9	5143118000	1S2473HJ
D101, D201	5143118000	1S2473HJ (V-95RX/V-R1)
D102, D202	5143118000	1S2473HJ (V-95RX/V-R1)
D103, D203	5143118000	1S2473HJ
D104	5143118000	1S2473HJ

REF. NO.	PARTS NO.	DESCRIPTION
D105, D205	5143118000	1S2473HJ
D106	5143118000	1S2473HJ
D107	5143118000	1S2473HJ
D109	5224013210	DS135
D301	△ 5228005700	LBA-01
D302	△ 5228005600	MBK3-02
D303	△ 5224014400	SM-1A-02LFA
D304	△ 5224014400	SM-1A-02LFA
D305	5143198000	Zener EQA01-13R
D306	△ 5224014400	SM-1A-02LFA
D307~D310	5143118000	1S2473HJ
D311	△ 5224014400	SM-1A-02LFA
D312	5224520500	Zener GZA9.1L
<b>CARBON RESISTORS</b>		
All resistors are rated ±5% tolerance and ¼ watt unless otherwise noted.		
R108, R208	5183088000	1.8kΩ
R109, R209	5183132000	120kΩ
R110, R210	5183106000	10kΩ
R111, R211	5183130000	100kΩ
R112, R212	5183106000	10kΩ
R113, R213	5183064000	180Ω
R114, R214	5183094000	3.3kΩ
R115, R215	5183122000	47kΩ
R116, R216	5183134000	150kΩ
R117, R217	5183140000	270kΩ
R118	5183116000	27kΩ
R119, R219	5183082000	1kΩ
R126, R226	5183106000	10kΩ
R127	5183106000	10kΩ
R128	5183106000	10kΩ
R129, R229	5183132000	120kΩ
R130	5183084000	1.2kΩ (V-95RX/V-R1)
R131, R231	5183106000	10kΩ (V-95RX/V-R1)
R132, R232	5183154000	1MΩ (V-95RX/V-R1)
R133	5183122000	47kΩ (V-95RX/V-R1)
R134	5183122000	47kΩ (V-95RX/V-R1)
R135	5183138000	220kΩ (V-95RX/V-R1)
R136, R236	5183130000	100kΩ
R137, R237	5183082000	1kΩ
R138, R238	5183106000	10kΩ
R139, R239	5183098000	4.7kΩ
R140, R240	5183090000	2.2kΩ
R141	5183118000	33kΩ
R142, R242	5183092000	2.7kΩ
R143, R243	5183094000	3.3kΩ
R144, R244	5183106000	10kΩ
R146	5183106000	10kΩ
R147, R247	5183126000	68kΩ
R149	5183132000	120kΩ
R150, R250	5183106000	10kΩ
R151, R251	5183106000	10kΩ
R152, R252	5183148000	560kΩ
R153, R253	5183118000	33kΩ
R154, R254	5183058000	100Ω
R155, R255	5183114000	22kΩ
R156, R256	5183050000	47Ω
R157, R257	5183084000	1.2kΩ
R158, R258	5183106000	10kΩ
R159, R259	5183106000	10kΩ
R161, R261	5183132000	120kΩ

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REF. NO.	PARTS NO.	DESCRIPTION
R162, R262	5183098000	4.7k $\Omega$
R163, R263	5183132000	120k $\Omega$
R164, R264	5183106000	10k $\Omega$
R165	5183118000	33k $\Omega$
R166, R266	5183058000	100 $\Omega$
R167	5183082000	1k $\Omega$
R168	5183106000	10k $\Omega$
R169	5183106000	10k $\Omega$
R170	5183130000	100k $\Omega$
R171	5183082000	1k $\Omega$
R172	5183092000	2.7k $\Omega$
R174	5183112000	18k $\Omega$
R177, R277	5183090000	2.2k $\Omega$
R178, R278	5183110000	15k $\Omega$
R199, R299	5183092000	2.7k $\Omega$
R301	5183082000	1k $\Omega$
R302	5183106000	10k $\Omega$
R303	5183082000	1k $\Omega$
R304	5183082000	1k $\Omega$
R305	5183130000	100k $\Omega$
R306	5183104000	8.2k $\Omega$
R307	5183130000	100k $\Omega$
R308	5183104000	8.2k $\Omega$
R309	5183082000	1k $\Omega$
R310	5183082000	1k $\Omega$
R311	5183130000	100k $\Omega$
R312	5183104000	8.2k $\Omega$
R313	5183130000	100k $\Omega$
R314	5183104000	8.2k $\Omega$
R319	5183068000	270 $\Omega$
R321	△5180078000	680 $\Omega$ 1/2W
R322	5183106000	10k $\Omega$
R324	5183098000	4.7k $\Omega$ (V-90R/V-R2)
R325	5183114000	22k $\Omega$ (V-90R/V-R2)
R326	5183098000	4.7k $\Omega$ (V-90R/V-R2)
R327	5183114000	22k $\Omega$ (V-90R/V-R2)
R501, R601	5183106000	10k $\Omega$
R502, R602	5183106000	10k $\Omega$
R503, R603	5183118000	33k $\Omega$
R504, R604	5183118000	33k $\Omega$
R505, R605	5183058000	100 $\Omega$
R508	5240173000	100k $\Omega$
R608	5183130000	100k $\Omega$
R509~R511	5183106000	10k $\Omega$
R512	5183132000	120k $\Omega$
<b>CAPACITORS</b>		
C107, C207	5170435000	Mylar 0.027 $\mu$ F 100V 5%
C108, C208	5173054800	Elec. 220 $\mu$ F 16V
C109, C209	5173556800	Elec. 1 $\mu$ F 50V
C110, C210	5170411000	Mylar 0.0027 $\mu$ F 100V 5%
C111, C211	5173011800	Elec. 10 $\mu$ F 25V
C112, C212	5173011800	Elec. 10 $\mu$ F 25V
C113, C213	5173011800	Elec. 10 $\mu$ F 25V
C114, C214	5170419000	Mylar 0.0056 $\mu$ F 100V 5%
C115, C215	5170435000	Mylar 0.027 $\mu$ F 100V 5%
C116, C216	5170417000	Mylar 0.0047 $\mu$ F 100V 5%

REF. NO.	PARTS NO.	DESCRIPTION
C117, C217	5170441000	Mylar 0.047 $\mu$ F 100V 5%
C118, C218	5173011800	Elec. 10 $\mu$ F 25V
C119, C219	5170449000	Mylar 0.1 $\mu$ F 100V 5%
C120, C220	5260225802	Elec. 0.33 $\mu$ F 50V
C121	5172990800	Elec. 0.47 $\mu$ F 50V
C125, C225	5170425000	Mylar 0.01 $\mu$ F 100V 5% (V-95RX/V-R1)
C126, C226	5173005800	Elec. 4.7 $\mu$ F 35V (V-95RX/V-R1)
C127	5172996800	Elec. 2.2 $\mu$ F 50V (V-95RX/V-R1)
C128, C228	5260065612	Elec. 1 $\mu$ F 50V (BP)
C129	5173011800	Elec. 10 $\mu$ F 25V
C130	5173011800	Elec. 10 $\mu$ F 25V
C131, C231	5173011800	Elec. 10 $\mu$ F 25V
C132, C232	5173045800	Elec. 100 $\mu$ F 16V
C133, C233	5172990800	Elec. 0.47 $\mu$ F 50V
C134, C234	5173011800	Elec. 10 $\mu$ F 25V
C135, C235	5173045800	Elec. 100 $\mu$ F 16V
C136, C236	5260065612	Elec. 1 $\mu$ F 50V (BP)
C137, C237	5170433000	Mylar 0.022 $\mu$ F 100V 5%
C138, C238	5170429000	Mylar 0.015 $\mu$ F 100V 5%
C139, C239	5170433000	Mylar 0.022 $\mu$ F 100V 5%
C140, C240	5172660000	Polyst. 100pF 125V 10%
C141	5173011800	Elec. 10 $\mu$ F 25V
C143	5173037800	Elec. 47 $\mu$ F 25V
C155	5173011800	Elec. 10 $\mu$ F 25V
C156, C256	5170423000	Mylar 0.0082 $\mu$ F 100V 5%
C10	5173011800	Elec. 10 $\mu$ F 25V
C301	△5173089800	Elec. 2200 $\mu$ F 25V
C302	△5173089800	Elec. 2200 $\mu$ F 25V
C303	5173036800	Elec. 47 $\mu$ F 15V
C304	5173036800	Elec. 47 $\mu$ F 15V
C305	△5173082800	Elec. 1000 $\mu$ F 25V
C306	5173011800	Elec. 10 $\mu$ F 25V
C307	5173011800	Elec. 10 $\mu$ F 25V
C308	5173036800	Elec. 47 $\mu$ F 15V
C309	5172996800	Elec. 2.2 $\mu$ F 50V
C310	5173005800	Elec. 4.7 $\mu$ F 35V
C311	5260065812	Elec. 2.2 $\mu$ F 50V (BP)
C312	5260065812	Elec. 2.2 $\mu$ F 50V (BP)
C313	5172996800	Elec. 2.2 $\mu$ F 50V
C314	5173005800	Elec. 4.7 $\mu$ F 35V
C316	△5262002102	Elec. 4700 $\mu$ F 25V
C317	5173037800	Elec. 47 $\mu$ F 25V
C318	△5262002102	Elec. 4700 $\mu$ F 25V
<b>VARIABLE RESISTORS</b>		
R10, R20	5280003602	Semi-fixed 20k $\Omega$ (B)
R11, R21	5280003602	Semi-fixed 20k $\Omega$ (B)
R12, R22	5280004002	Semi-fixed 50k $\Omega$ (B)
R16, R26	5280003502	Semi-fixed 10k $\Omega$ (B)
R17, R27	5280003502	Semi-fixed 10k $\Omega$ (B)
R18, R28	5280004202	Semi-fixed 100k $\Omega$ (B)
R19, R29	5280004202	Semi-fixed 100k $\Omega$ (B)
R30	5280004202	Semi-fixed 100k $\Omega$ (B)

## MIC AMPL PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
<b>COILS</b>		
L101, L201	5286000100	Choke 4.2mH (Variable)
L102	5160151000	Choke 1.2mH (fixed)
L103, L203	5160161000	Choke 8.2mH (fixed)
<b>MISCELLANEOUS</b>		
U103, U203	5286006100	Filter, Low-pass; 19kHz
U107, U207	5286006300	Coil, Trap; 85kHz
U108	5292201200	OSC Unit, 85kHz
S101, S102	5302101100	Switch, w/Magnet
S103	5300023600	Switch, Push; 2-2 (3-gang)
S104, S105	5300023700	Switch, Push; 4-2 (V-95RX/V-R1)
	5300023800	Switch, Push; 2-2 (V-90R/V-R2)
P1, P2	5334022100	Connector Plug, 6P
P3, P4	5334022200	Connector Plug, 2P
P5	5122127000	Connector Plug, 3P
P6	5122126000	Connector Plug, 2P
P7	5122126000	Connector Plug, 2P (V-95RX/V-R1)
P8	5122126000	Connector Plug, 2P
	5330506600	Pin Jack, 4P
	5800243600	Heatsink
	5317000300	Plate, Insulating; A
	5033291000	Plate, Insulating
	5033295000	Tube, Insulating

## PLAYBACK AMPL PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	5200064200	PCB Assy [All except US, C]
	5200064210	PCB Assy [US, C]
	5210064200	PCB [All except US, C]
	5210064300	PCB [US, C]
<b>IC</b>		
U101	5220412500	NJM4562D
<b>CARBON RESISTORS</b>		
All resistors are rayted $\pm 5\%$ tolerance and $\frac{1}{4}$ watt.		
R101, R201	5183126000	68k $\Omega$
R102, R202	5183054000	68 $\Omega$
R103	5183074000	470 $\Omega$
R104, R204	5183132000	120k $\Omega$
R105, R205	5183098000	4.7k $\Omega$
R106	5183074000	470 $\Omega$
R107, R207	5183090000	2.2k $\Omega$
<b>CAPACITORS</b>		
C101, C201	5172321000	Ceramic 560pF 50V 10%
C102	5173054800	Elec. 220 $\mu$ F 16V
C103, C203	5172312000	Ceramic 100pF 50V 10%
C104	5173054800	Elec. 220 $\mu$ F 16V
C105, C205	5170435000	Mylar 0.027 $\mu$ F 100V 5%
C106, C206	5260065812	Elec. 2.2 $\mu$ F 50V (BP)
C145, C245	5173044800	Elec. 100 $\mu$ F 10V
	5334023300	Connector Plug, 3P
	5334023500	Connector Plug, 5P

REF. NO.	PARTS NO.	DESCRIPTION
	5200059601	PCB Assy [All except US, C]
	5200059611	PCB Assy [US, C]
	5210059600	PCB [All except US, C]
	5210062900	PCB [US, C]
<b>IC</b>		
U104	5220414300	NJM4560D
<b>TRANSISTORS</b>		
Q107, Q207	5145119000	2SC1844F
<b>CARBON RESISTORS</b>		
All resistors are rated $\pm 5\%$ tolerance and $\frac{1}{4}$ watt.		
R120, R220	5183090000	2.2k $\Omega$
R121, R221	5183138000	220k $\Omega$
R122, R222	5183138000	220k $\Omega$
R123, R223	5183090000	2.2k $\Omega$
R124, R224	5183046000	33 $\Omega$
R125, R225	5183106000	10k $\Omega$
R179, R279	5183120000	39k $\Omega$
R180, R280	5183134000	150k $\Omega$
R181, R281	5183132000	120k $\Omega$
R182, R282	5183064000	180 $\Omega$
R183, R283	5183161000	2M $\Omega$
R184, R284	5183082000	1k $\Omega$
R185, R285	5183108000	12k $\Omega$
R186, R286	5183050000	47 $\Omega$
R187, R287	5183132000	120k $\Omega$
R188, R288	5183094000	3.3k $\Omega$
<b>CAPACITORS</b>		
C122, C222	5260065612	Elec. 1 $\mu$ F 50V (3P)
C123	5172992800	Elec. 1 $\mu$ F 50V
C124	5172992800	Elec. 1 $\mu$ F 50V
C145, C245	5173045800	Elec. 100 $\mu$ F 16V
C146, C246	5173011800	Elec. 10 $\mu$ F 25V
C147, C247	5172312000	Ceramic 100pF 50V 10%
C148, C248	5173053800	Elec. 220 $\mu$ F 10V
C149, C249	5260073512	Elec. 4.7 $\mu$ F 25V (3P)
<b>MISCELLANEOUS</b>		
	5122146000	Connector Plug, 3P
	5330008200	Jack, MIC
	5330008100	Jack, PHONES
	5334022300	Connector Plug, 9P

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## CONTROL PCB-133 ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	5200059500	PCB Assy (V-95RX/V-R1) [All except US, C]
	5200059510	PCB Assy (V-95RX/V-R1) [US, C]
	5200059520	PCB Assy (V-90R/V-R2) [All except US, C]
	5200059530	PCB Assy (V-90R/V-R2) [US, C]
	5210059500	PCB [All except US, C]
	5210062800	PCB [US, C]
<b>IC's</b>		
U401	5220019400	TC4069UBP
U402	5220019100	TC4011BP
U403	5220019400	TC4069UBP
U404	5220019200	TC4013BP
U405	5220019100	TC4011BP
U406	5220019500	TC4071BP
U407	5220019000	TC4001BP
U408	5220019100	TC4011BP
U409	5220019400	TC4069UBP
U410	5220013300	TE5002BP
U411	5220019300	TC4015BP
U412	5220019000	TC4001BP (V-95RX/VR1)
U413	5220014000	MSM4049RS
<b>TRANSISTORS</b>		
Q401~Q403	5230777200	KTN5014GR
Q404	5230777200	KTN5014GR (V-95RX/V-R1)
Q405~Q410	5230777200	KTN5014GR
Q412~Q414	5145150000	2SA1015GR
Q415	5145150000	2SA1015GR (V-95RX/V-R1)
Q416~Q420	5145150000	2SA1015GR
Q423	5230777200	KTN5014GR
Q424	5230777200	KTN5014GR (V-95RX/V-R1)
Q425~Q427	5230777200	KTN5014GR
Q428	5145150000	2SA1015GR (V-95RX/V-R1)
Q429	5145150000	2SA1015GR
<b>DIODES</b>		
D401~D407	5143118000	1S2473HJ
D408	5143118000	1S2473HJ (V-95RX/V-R1)
D409~D420	5143118000	1S2473HJ
<b>CARBON RESISTORS</b>		
All resistors are rated $\pm 5\%$ tolerance and $\frac{1}{4}$ watt.		
R401~R404	5183122000	47k $\Omega$
R405	5183114000	22k $\Omega$
R406	5183130000	100k $\Omega$
R407	5183154000	1M $\Omega$
R408	5183134000	150k $\Omega$
R410	5183090000	2.2k $\Omega$
R411	5183110000	15k $\Omega$
R412	5183074000	470 $\Omega$
R413	5183130000	100k $\Omega$
R414	5183134000	150k $\Omega$
R415	5183098000	4.7k $\Omega$
R416	5183130000	100k $\Omega$
R417	5183134000	150k $\Omega$
R418	5182114000	22k $\Omega$
R419	5183098000	4.7k $\Omega$

REF. NO.	PARTS NO.	DESCRIPTION
R420	5183138000	220k $\Omega$
R421	5183130000	100k $\Omega$
R422	5183100000	5.6k $\Omega$
R423	5183100000	5.6k $\Omega$ (V-95RX/V-R1)
R424	5183100000	5.6k $\Omega$
R425	5183100000	5.6k $\Omega$ (V-95RX/V-R1)
R426, R427	5183100000	5.6k $\Omega$
R428	5183098000	4.7k $\Omega$
R429	5183114000	22k $\Omega$
R430	5183098000	4.7k $\Omega$
R431	5183150000	680k $\Omega$
R432	5183130000	100k $\Omega$
R433	5183154000	1M $\Omega$
R434	5183138000	220k $\Omega$
R435	5183106000	10k $\Omega$
R436~R442	5183060000	120 $\Omega$
R443	5183060000	120 $\Omega$ (V-95RX/V-R1)
R444	5183038000	15 $\Omega$
R445	5183058000	100 $\Omega$
<b>CAPACITORS</b>		
C401, C402	5173005800	Elec. 4.7 $\mu$ F 35V
C403	5173005800	Elec. 4.7 $\mu$ F 35V (V-95RX/V-R1)
C404~C409	5173005800	Elec. 4.7 $\mu$ F 35V
C412	5173005800	Elec. 4.7 $\mu$ F 35V
C413	5173011800	Elec. 10 $\mu$ F 25V
C414	5172992800	Elec. 1 $\mu$ F 50V
C415	5172996800	Elec. 2.2 $\mu$ F 50V
C416	5172996800	Elec. 2.2 $\mu$ F 50V
C417	5173011800	Elec. 10 $\mu$ F 25V
C418	5170437000	Mylar 0.033 $\mu$ F 100V 5%
C419	5173005800	Elec. 4.7 $\mu$ F 35V
C420	5173027800	Elec. 33 $\mu$ F 16V
<b>CONNECTORS</b>		
P402	5122130000	Plug, 6P
P403	5122132000	Plug, 8P
P404	5122129000	Plug, 5P
P406	5336104100	Socket, WP22-1W
P407~P409	5336104200	Socket, MWP2P-1B
P410	5336104100	Socket, WP22-1W
P413	5122126000	Plug, 2P
P414	5122128000	Plug, 4P

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## SENSOR PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	5200078800	PCB Assy
	5210078800	PCB
P405	5334023300	Connector Plug, 3P
RT40	5122127000	Connector Plug, 3P
Q450	5143127000	Termistor, S5C14
R40	5230777200	Transistor, KTN5014GR
R450	5280001702	Variable Res, 100k $\Omega$ (B) Semi-fixed
R451	5183100000	Carbon Res. 5.6k $\Omega$ $\frac{1}{4}$ W 5%
R452	5183118000	Carbon Res. 33k $\Omega$ $\frac{1}{4}$ W 5%
	5183092000	Carbon Res. 2.7k $\Omega$ $\frac{1}{4}$ W 5%

## JOINT PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	5200079700	PCB Assy
	5210079700	PCB
U420	5228007700	Diode Array, DA-8P
U421	5228007900	Diode Array, DA-8N
P401	5122131000	Connector Plug, 7P
P415	5334025700	Connector Plug, 7P

## DBX PCB ASSY (V-95RX/V-R1)

REF. NO.	PARTS NO.	DESCRIPTION
	5200046100	PCB-105 Assy
	5210046100	PCB-105
	IC's	
U501	5220407100	TL082CP
U502, U602	5220406700	RC4558P
U503	5220407100	TL082CP
U504	5220406700	RC4558P
	TRANSISTORS	
Q501, Q601	5145151000	2SC1815GR
Q502, Q602	5230775000	2SC2878B
Q503, Q603	5230775000	2SC2878B
Q504, Q604	5145151000	2SC1815GR
Q505, Q605	5232250300	$\mu$ PA75VF (Pair)
Q505, Q605	5232250100	$\mu$ PA74VF (Pair)
Q507, Q607	5230775000	2SC2878B
Q508, Q608	5230775000	2SC2878B
Q509, Q609	5145151000	2SC1815GR
Q510, Q610	5232250100	$\mu$ PA74VF (Pair)
Q511, Q611	5145151000	2SC1815GR
Q512, Q612	5232250100	$\mu$ PA74VF
Q513, Q613	5232250100	$\mu$ PA74VF
Q514, Q614	5230774300	2SC1845F
Q515, Q615	5145150000	2SA1015GR
Q516, Q616	5145102000	FET 2SK68AL
Q517	5145151000	2SC1815GR
Q518	5145150000	2SA1015GR
Q519	5145151000	2SC1815GR

REF. NO.	PARTS NO.	DESCRIPTION
DIODES		
D501, D601	5143118000	1S2473HJ
CARBON RESISTORS		
All resistors are rated $\pm 5\%$ tolerance and $\frac{1}{4}$ watt unless otherwise noted.		
R501, R601	5183122000	47k $\Omega$
R502, R602	5183082000	1k $\Omega$
R503, R603	5183122000	47k $\Omega$
R504, R604	5183100000	5.6k $\Omega$
R505, R605	5183122000	47k $\Omega$
R506, R606	5183130000	100k $\Omega$
R507, R607	5183117000	30k $\Omega$
R508, R608	5183048000	39 $\Omega$
R509, R609	5183130000	100k $\Omega$
R510, R610	5185066000	82 $\Omega$ 2%
R511, R611	5183100000	5.6k $\Omega$
R512, R612	5183086000	1.5k $\Omega$
R513, R613	5183079000	750 $\Omega$
R514, R614	5183082000	1k $\Omega$
R515, R615	5183048000	39 $\Omega$
R516, R616	5185066000	82 $\Omega$ 2%
R517, R617	5185066000	82 $\Omega$ 2%
R518, R618	5185066000	82 $\Omega$ 2%
R519, R619	5183117000	30k $\Omega$
R520, R620	5183130000	100k $\Omega$
R521, R621	5183058000	100 $\Omega$
R522, R622	5183122000	47k $\Omega$
R523, R623	5183122000	47k $\Omega$
R524, R624	5183130000	100k $\Omega$
R525, R625	5183121000	43k $\Omega$
R526, R626	5183129000	91k $\Omega$
R527, R627	5183158000	1.5M $\Omega$
R528, R628	5183101000	6.2k $\Omega$
R529, R629	5183106000	10k $\Omega$
R530, R630	5183112000	18k $\Omega$
R531, R631	5183100000	5.6k $\Omega$
R532, R632	5183094000	3.3k $\Omega$
R533, R633	5183118000	33k $\Omega$
R534, R634	5183122000	47k $\Omega$
R535, R635	5183058000	100 $\Omega$
R536, R636	5183082000	1k $\Omega$
R537, R637	5185116000	10k $\Omega$
R538, R638	5185116000	10k $\Omega$
R539, R639	5183082000	1k $\Omega$
R540, R640	5183082000	1k $\Omega$
R541, R641	5183084000	1.2k $\Omega$
R542, R642	5183100000	5.6k $\Omega$
R543, R643	5183146000	470k $\Omega$
R544, R644	5183142000	330k $\Omega$
R545, R645	5183026000	4.7 $\Omega$
R546, R646	5183100000	5.6k $\Omega$
R547, R647	5183130000	100k $\Omega$
R548, R648	5183148000	560k $\Omega$
R549, R649	5185116000	10k $\Omega$
R550, R650	5185116000	10k $\Omega$
R551, R651	5185118000	12k $\Omega$
R552, R652	5183082000	1k $\Omega$
R553, R653	5183082000	1k $\Omega$
R554, R654	5183130000	100k $\Omega$
R555	5183098000	4.7k $\Omega$

## LEVEL METER PCB B ASSY

REF. NO.	PARTS NO.	DESCRIPTION
R556	5183106000	10k $\Omega$
R557	5183098000	4.7k $\Omega$
R558	5183106000	10k $\Omega$
R559	5183106000	10k $\Omega$
R560	5183106000	10k $\Omega$
R561	5183106000	10k $\Omega$

### CAPACITORS

C501, C601	5260067010	Elec.	10 $\mu$ F	16V (BP)
C502, C602	5263162213	Meta.	0.1 $\mu$ F	50V 5%
C503, C603	5172310000	Ceramic	68pF	50V 10%
C504, C604	5170413000	Mylar	0.0033 $\mu$ F	100V 5%
C505, C605	5172308000	Ceramic	47pF	50V 10%

C506, C606	5172300000	Ceramic	10pF	50V 10%
C507, C607	5172309000	Ceramic	56pF	50V 10%
C508, C608	5170413000	Mylar	0.0033 $\mu$ F	100V 5%
C509, C609	5260066510	Elec.	4.7 $\mu$ F	35V (BP)
C510, C610	5263162200	Meta.	0.1 $\mu$ F	50V 5%

C511, C611	5263162213	Meta.	0.1 $\mu$ F	50V 5%
C512, C612	5170413000	Mylar	0.0033 $\mu$ F	100V 5%
C513, C613	5170413000	Mylar	0.0033 $\mu$ F	100V 5%
C514, C614	5172318000	Ceramic	330pF	50V 10%
C515, C615	5263162213	Meta.	0.1 $\mu$ F	50V 5%

C516, C616	5170425000	Mylar	0.01 $\mu$ F	100V 5%
C517, C617	5172300000	Ceramic	10pF	50V 10%
C518, C618	5260227510	Elec.	22 $\mu$ F	10V
C519	5173036000	Elec.	47 $\mu$ F	16V
C520	5173036000	Elec.	47 $\mu$ F	16V
C521	5173017000	Elec.	22 $\mu$ F	10V

### VARIABLE RESISTORS

R51, R61	5150094000	Semi-fixed	50k $\Omega$ (B)
R52, R62	5150092000	Semi-fixed	10k $\Omega$ (B)
R53, R63	5150094000	Semi-fixed	50k $\Omega$ (B)
R54, R64	5150094000	Semi-fixed	50k $\Omega$ (B)
R55, R65	5150094000	Semi-fixed	50k $\Omega$ (B)

### MISCELLANEOUS

P501	5336088400	Connector Socket, 4P
P502	5336088600	Connector Socket, 6P
	5800140700	Clip, Transistor
	5544750000	Pin, TP

## LEVEL METER PCB A ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	5200059700	PCB A Assy [All except US, C]
	5200059710	PCB A Assy [US, C]
	5210059700	PCB A [All except US, C]
	5210063000	PCB A [US, C]
U209	5220414200	IR2E04
U210	5242105200	Resistor Array 1.5k $\Omega$ x 7
R296	5183116000	Carbon Res. 27k $\Omega$ 1/4W 5%
R297	5183106000	Carbon Res. 10k $\Omega$ 1/4W 5%
R298	5183090000	Carbon Res. 2.2k $\Omega$ 1/4W 5%
C250~C252	5173011800	Elec. Cap. 10 $\mu$ F 25V
	5317001000	Connector Pin

REF. NO.	PARTS NO.	DESCRIPTION
	5200059801	PCB B Assy [All except US, C]
	5200059811	PCB B Assy [US, C]
	5210059801	PCB B [All except US, C]
	5210063101	PCB B [US, C]
U109	5220414200	IR2E04
R189~R195	5183086000	Carbon Res. 1.5k $\Omega$ 1/4W 5%
R196	5183116000	Carbon Res. 27k $\Omega$ 1/4W 5%
C150~C152	5173011800	Elec. Cap. 10 $\mu$ F 25V

## MOTOR VR PCB ASSY (V-95RX/V-R1)

REF. NO.	PARTS NO.	DESCRIPTION
	5200059200	PCB Assy [All except US, C]
	5200059210	PCB Assy [US, C]
	5210059200	PCB [All except US, C]
	5210062500	PCB [US, C]
Q310, Q311	5145084000	Transistor 2SA934Q
Q312, Q313	5145082000	Transistor 2SC2060Q
R14	5283503100	Var. Res., w/Motor 100k $\Omega$ (A) x 2
R135~R137	5183082000	Carbon Res. 1k $\Omega$ 1/4W 5%
R328	5183074000	Carbon Res. 470 $\Omega$ 1/4W 5%
C135	5260065812	Elec. Cap. 2.2 $\mu$ F 50V (BP)
	5122146000	Connector Plug, 3P

## OPERATION SW PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	5200060600	PCB Assy (V-95RX/V-R1) [All except US, C]
	5200060610	PCB Assy (V-95RX/V-R1) [US, C]
	5200060620	PCB Assy (V-90R/V-R2) [All except US, C]
	5200060630	PCB Assy (V-90R/V-R2) [US, C]
	5210060600	PCB [All except US, C]
	5210063900	PCB [US, C]
U414	5242105100	Resistor Array, 2.2k $\Omega$ x 7
U415, U416	5228006900	Diode Array, DA-4P
U417	5228006800	Diode Array, DA-3P
S401	5302100900	Tact Switch
P411	5336103100	Connector Socket, 11P
P412	5336102400	Connector Socket, 4P
P413	5334021900	Connector Socket, 8P
	5225010300	LED, GL-5PR6
	5225010400	LED, GL-5NG10
	5800318402	Plate, Shield

[US]: U.S.A. [C]: CANADA [GE]: GENERAL EXPORT [E]: EUROPE [UK]: U.K.  
[A]: AUSTRALIA [J]: JAPAN [L]: LIMITED AREA

## CONTROL PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	5760215800	PCB Assy
	5760215900	PCB
	IC's	
IC1	5760166800	T4-38262
IC2, IC3	5760216300	BA6208
	TRANSISTORS	
Q1	5231758900	2SD400E
Q2~Q10	5230770300	2SC1815Y
Q11	5230012600	2SA1015Y
	DIODES	
D1~D7	5143118000	1S2473HJ
D8	5042290000	1N4002
ZD1	5224524903	Zener HZ7B2
ZD2	5760216400	Zener HZ3C1
ZD3	5143254000	Zener WZ042
	5760216500	X-tal 4194304Hz
	CARBON RESISTORS	
All resistors are rated $\pm 5\%$ tolerance and $\frac{1}{4}$ watt.		
R1	5183060000	120 $\Omega$
R3	5183098000	4.7k $\Omega$
R4, R5	5183068000	270 $\Omega$
R6, R7	5183106000	10k $\Omega$
R8, R9	5183114000	22k $\Omega$
R10, R11	5183086000	1.5k $\Omega$
R12, R13	5183106000	10k $\Omega$
R14, R15	5183114000	22k $\Omega$
R16	5183122000	47k $\Omega$
R17	5183114000	22k $\Omega$
R19	5183138000	220k $\Omega$
R20, R21	5183130000	100k $\Omega$
R22~R27	5183122000	47k $\Omega$
R28	5183154000	1M $\Omega$
R29	5183091000	2.4k $\Omega$
	CAPACITORS	
C1~C5	5173010000	Elec. 10 $\mu$ F 16V
C6	5173017000	Elec. 22 $\mu$ F 10V
C7	5173043000	Elec. 100 $\mu$ F 6.3V
C8, C9	5170425800	Mylar 0.01 $\mu$ F 100V
C10	5172992000	Elec. 1 $\mu$ F 50V
C11, C12	5172301000	Ceramic 12pF 50V
C13	5170401800	Mylar 0.001 $\mu$ F 100V
C15	5760216800	Ceramic 0.1 $\mu$ F 25V
	CONNECTORS	
CN1	5122129000	Plug, 5P
CN2	5122133000	Plug, 9P
CN3	5122137000	Plug, 13P
CN4	5122127000	Plug, 3P
CN5	5122128000	Plug, 4P
CN6	5122130000	Plug, 9P
CN7	5122136000	Plug, 12P
CN8	5122128000	Plug, 4P

## CAM PCB ASSY (PC Board Omitted)

REF. NO.	PARTS NO.	DESCRIPTION
	5760216100	PCB Assy
	5760216200	PCB
	5228700100	Hall IC DN6838

## TIMER SW PCB ASSY (PC Board Omitted)

REF. NO.	PARTS NO.	DESCRIPTION
	5200060100	PCB Assy [All except US, C]
	5200060110	PCB Assy [US, C]
	5210060100	PCB [All except US, C]
	5210063400	PCB [US, C]
	5301203700	Switch, Rotary; 2—3

## REVERSE MODE SW PCB ASSY (PC Board Omitted)

REF. NO.	PARTS NO.	DESCRIPTION
	5200060000	PCB Assy [All except US, C]
	5200060010	PCB Assy [US, C]
	5210060000	PCB [All except US, C]
	5210063300	PCB [US, C]
	5301203700	Switch, Rotary; 2—3

## 7 seg. LED PCB ASSY (PC Board Omitted)

REF. NO.	PARTS NO.	DESCRIPTION
	5200060800	PCB Assy (V-95RX/V-R1)
	5200060810	PCB Assy (V-90R/V-R2)
	5210060800	PCB
	5225009300	LED, SL-2172 (V-95RX/V-R1)
	5225009400	LED, SL-2406-20

## UP-DOWN SW PCB ASSY (V-95RX/V-R1) (PC Board Omitted)

REF. NO.	PARTS NO.	DESCRIPTION
	5200059900	PCB Assy [All except US, C]
	5200059910	PCB Assy [US, C]
	5210059900	PCB [All except US, C]
	5210063200	PCB [US, C]
S106, S107	5302101000	Switch, Tact

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[A]: AUSTRALIA [J]: JAPAN [L]: LIMITED AREA

**SPEED SW PCB ASSY (V-95RX/V-R1)**  
**(PC Board Omitted)**

REF. NO.	PARTS NO.	DESCRIPTION
R318	5200060200	PCB Assy [All except US, C]
	5200060210	PCB Assy [US, C]
	5210060200	PCB [All except US, C]
	5210063500	PCB [US, C]
	5300023900	Switch, Push; 2-2
	5183044000	Carbon Res. 27Ω ¼W 5%

**BALANCE VR PCB ASSY (V-95RX/V-R1)**  
**(PC Board Omitted)**

REF. NO.	PARTS NO.	DESCRIPTION
R15	5200060300	PCB Assy [All except US, C]
	5200060310	PCB Assy [US, C]
	5210060300	PCB [All except US, C]
	5210063600	PCB [US, C]
	5282011202	Var. Res. 200kΩ

**OUTPUT VR PCB ASSY (V-95RX/V-R1)**  
**(PC Board Omitted)**

REF. NO.	PARTS NO.	DESCRIPTION
R13	5200060400	PCB Assy [All except US, C]
	5200060410	PCB Assy [US, C]
	5210060400	PCB [All except US, C]
	5210063700	PCB [US, C]
	5282407702	Var. Res. 20kΩ(A) x 2

**DBX LED PCB ASSY (V-95RX/V-R1)**  
**(PC Board Omitted)**

REF. NO.	PARTS NO.	DESCRIPTION
	5200060900	PCB Assy
	5210060900	PCB
	5225008600	LED, LT-9000N

**VOLUME IND. LED PCB ASSY (V-95RX/V-R1)**  
**(PC Board Omitted)**

REF. NO.	PARTS NO.	DESCRIPTION
	5200061000	PCB Assy
	5210061000	PCB
	5225008500	LED, GL-9NG10

**SLIDE VR PCB ASSY (V-90R/V-R2)**  
**(PC Board Omitted)**

REF. NO.	PARTS NO.	DESCRIPTION
R14	5200059300	PCB Assy [All except US, C]
	5200059310	PCB Assy [US, C]
	5210059300	PCB [All except US, C]
	5210062600	PCB [US, C]
	5284005400	Slide Var. Res. 100kΩ(A) x 2

**POWER SW PCB ASSY (PC Board Omitted)**

REF. NO.	PARTS NO.	DESCRIPTION
	5200060500	PCB Assy [J]
	5200060510	PCB Assy [US]
	5200060520	PCB Assy [C]
	5200060530	PCB Assy [GE, L]
	5200060540	PCB Assy [E, UK, A]
	5210060500	PCB [All except US, C]
	5210063800	PCB [US, C]
	△5300024000	Switch, Push [J]
	△5300024100	Switch, Push [US, C]
	△5300024200	Switch, Push [GE, L, E, UK, A]
	△5052905000	Spark Killer 0.1μF + 120Ω/300V [J]
	△5052906000	Spark Killer 0.33μF + 120Ω/250V [U]
	△5052911000	Spark Killer 0.033μF + 120Ω/250V [C]
	△5292002500	Spark Killer 0.01μF + 300Ω [GE, L]
	△5267702500	Spark Killer 0.0047μF/250V [E, UK, A]

**FUSE PCB ASSY (PC Board Omitted)**

REF. NO.	PARTS NO.	DESCRIPTION
F1, F2 F3	5200061200	PCB Assy [E, UK]
	5210061200	PCB [E, UK]
	5142087000	Holder, Fuse [E, UK]
	5041138000	Fuse, T500mA 250V [E, UK]
	5041140000	Fuse, T1A 250V [E, UK]

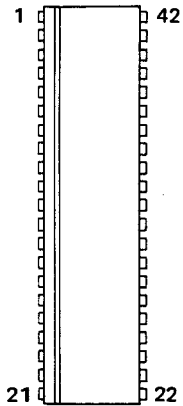
**VOLTAGE SELECTOR PCB ASSY (PC Board Omitted)**

REF. NO.	PARTS NO.	DESCRIPTION
	5200034900	PCB Assy [GE, L]
	5210034900	PCB [GE, L]
	5555062000	Plate, Selector; A [GE, L]

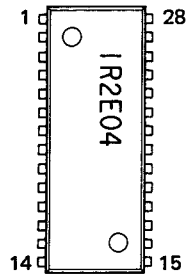
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 [A]: AUSTRALIA [J]: JAPAN [L]: LIMITED AREA

## SEMICONDUCTOR ELECTRODES

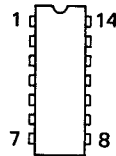
T4-38262  
(TOP VIEW)



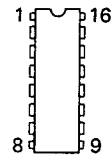
IR2E04  
(TOP VIEW)



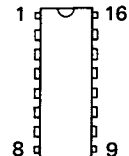
TC4001BP  
TC4011BP  
TC4013BP  
TC4069UBP  
TC4071BP  
TC5002BP  
(TOP VIEW)



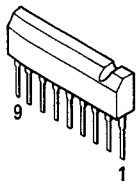
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TC4015BP  
(TOP VIEW)



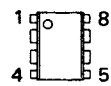
MSM4049RS  
(TOP VIEW)



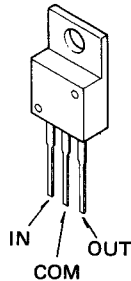
BA6208



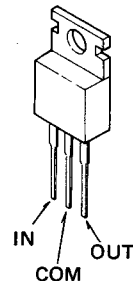
NJM4560D  
NJM4562D  
RC4558P  
TL082CP  
(TOP VIEW)



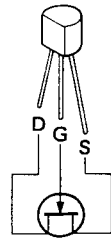
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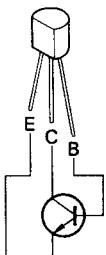
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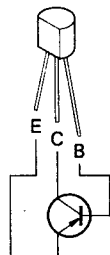
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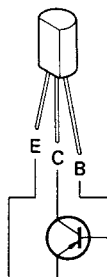
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2SC1844F  
2SC1845GR  
2SC2878GR  
KTN5014GR



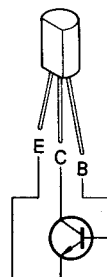
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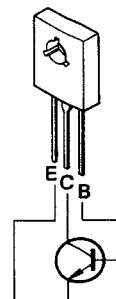
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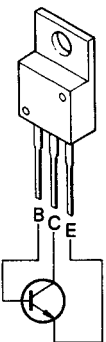
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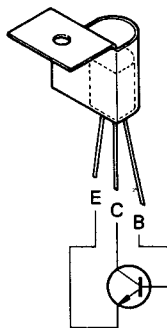
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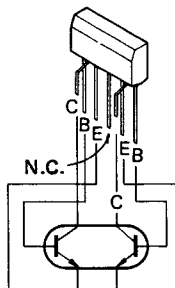
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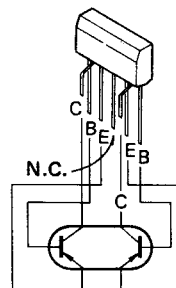
2SD400



μPA74V



μPA75V



# V-95RX / V-90R



## REVISION

The circuit diagrams, PC board diagrams, and adjustment procedures in this sheet are provided for model V-95RX serial No. 8941 and higher, and model V-90R serial No. 9371 and higher.

### Revision information

1. The JOINT PCB and SENSOR PCB-116 of older models are deleted. These PCB circuits are incorporated in the CONTROL PCB-133.
2. The sensor circuit is changed.
3. The position of connectors on the OPERATION SW PCB is changed.
4. Because of the sensor circuit change, the adjusting method of the quick-reverse circuit is changed as in the following descriptions.

### QUICK-REVERSE CIRCUIT ADJUSTMENT

1. Set the AUTO REVERSE switch to  or .
2. Turn the semi-fixed resistor R41, 10k ohms (B) fully clockwise when viewed from the foil side of the CONTROL PCB-133.
3. Play a TEAC MTT-501 test tape, then adjust the semi-fixed resistor R40, 200k ohms (B) so that the voltage of U413's pin 1 becomes +3 V. If it is impossible to set to +3 V by adjusting the R40 alone, adjust the R41 also.
4. Connect R432 to R431 in parallel as shown in Fig. 2.
5. While running the MTT-501 tape in the forward play mode, check that when the splicing tape passes in front of tape sensor assembly, the deck switches to the reverse play mode.
6. Disconnect the connection indicated in step 4.
7. Run the MTT-501 tape in the forward play mode. Check that when the splicing tape passes in front of the tape sensor assembly, within 10 second period after the start of the forward play, the deck does not switch to the reverse play mode.

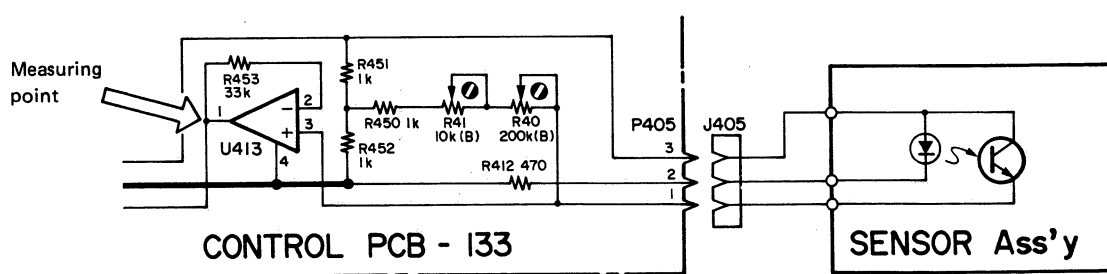


Fig. 1

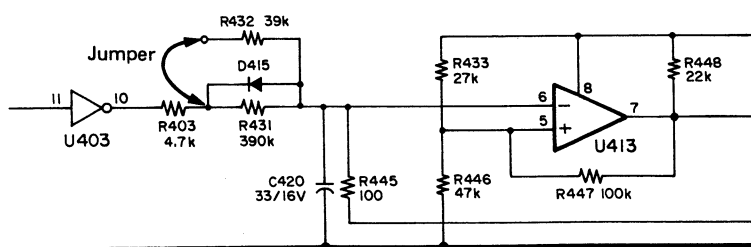
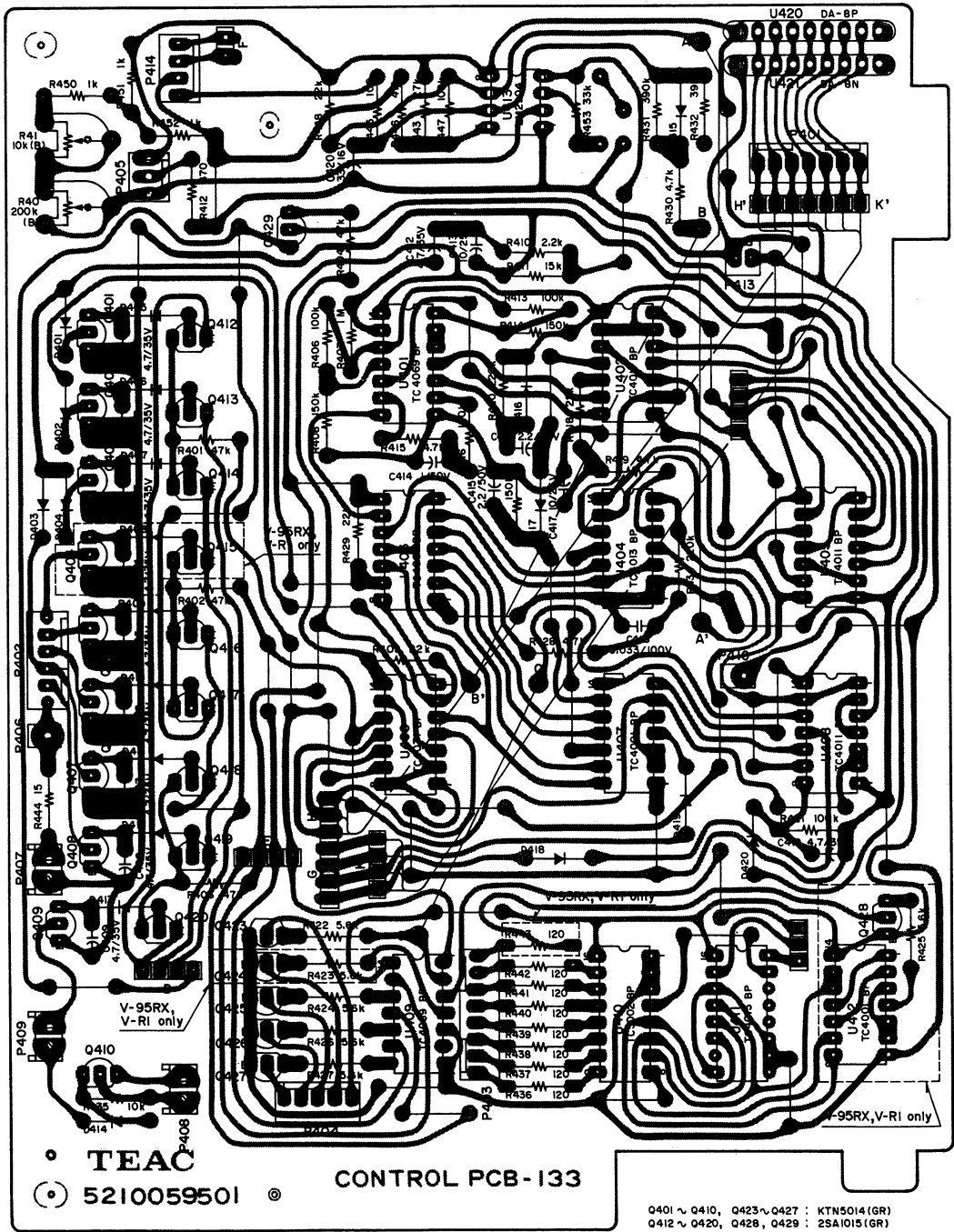


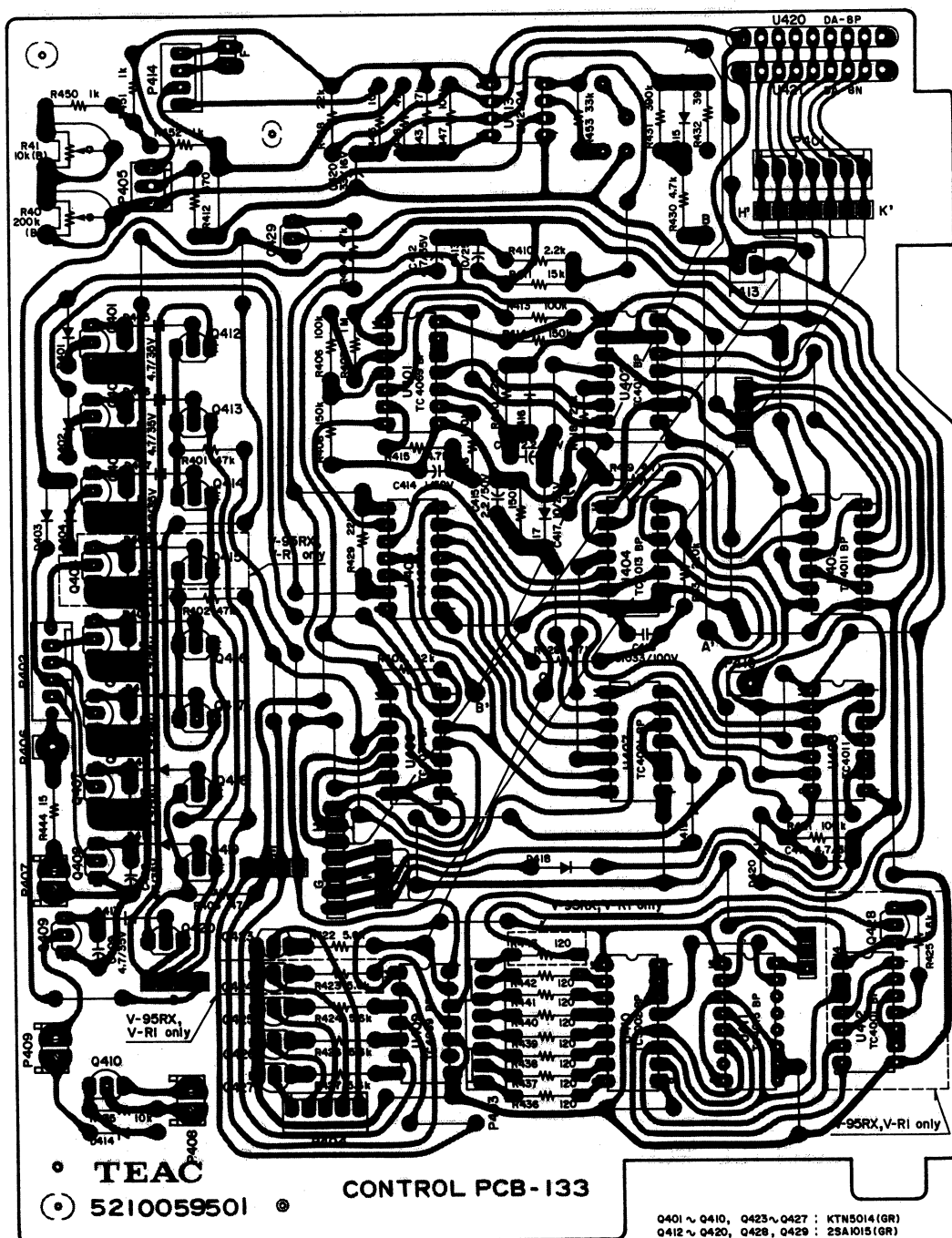
Fig. 2

CONTROL PCB-133 ASSY (REVISION)





## CONTROL PCB-133 ASSY (REVISION)



Q401 ~ Q410, Q423 ~ Q427 : KTN5014 (GR)  
Q412 ~ Q420, Q428, Q429 : 2SA1015 (GR)  
D401 ~ D420 : 1S2473HJ

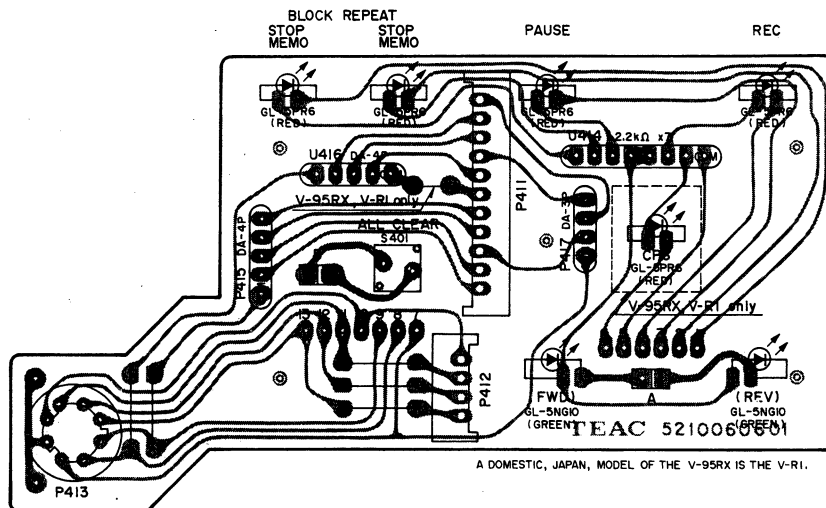
A DOMESTIC, JAPAN, MODEL OF THE V-95RX IS THE V-R1.

REF.NO.	PARTS NO.	DESCRIPTION
	5200059501	PCB Assy (V-95RX/V-R1) [All except US, C]
	5200059511	PCB Assy (V-95RX/V-R1) [US, C]
	5200059521	PCB Assy (V-90R/V-R2) [All except US, C]
	5200059531	PCB Assy (V-90R/V-R2) [US, C]
	5210059501	PCB [All except US, C]
	5210062801	PCB [US, C]
	IC's	
U401	5220019400	TC4069UBP
U402	5220019100	TC4011BP
U403	5220019400	TC4069UBP
U404	5220019200	TC4013BP
U405	5220019100	TC4011BP
U406	5220019500	TC4071BP
U407	5220019000	TC4001BP
U408	5220019100	TC4011BP
U409	5220019400	TC4069UBP
U410	5220013300	TE5002BP
U411	5220019300	TC4015BP
U412	5220019000	TC4001BP (V-95RX/VR1)
U413	5220416500	LM2940
	TRANSISTORS	
Q401~Q403	5230777200	KTN5014GR
Q404	5230777200	KTN5014GR (V-95RX/V-R1)
Q405~Q410	5230777200	KTN5014GR
Q412~Q414	5145150000	2SA1015GR
Q415	5145150000	2SA1015GR (V-95RX/V-R1)
Q416~Q420	5145150000	2SA1015GR
Q423	5230777200	KTN5014GR
Q424	5230777200	KTN5014GR (V-95RX/V-R1)
Q425~Q427	5230777200	KTN5014GR
Q428	5145150000	2SA1015GR (V-95RX/V-R1)
Q429	5145150000	2SA1015GR
	DIODES	
D401~D407	5143118000	1S2473HJ
D408	5143118000	1S2473HJ (V-95RX/V-R1)
D409~D420	5143118000	1S2473HJ
U420	5228008800	Array, DA-8P
U421	5228007900	Array, DA-8N
	CARBON RESISTORS	
All resistors are rated $\pm 5\%$ tolerance and $\frac{1}{4}$ watt.		
R401~R404	5183122000	47k $\Omega$
R405	5183114000	22k $\Omega$
R406	5183130000	100k $\Omega$
R407	5183154000	1M $\Omega$
R408	5183134000	150k $\Omega$
R410	5183090000	2.2k $\Omega$
R411	5183110000	15k $\Omega$
R412	5183074000	470 $\Omega$
R413	5183130000	100k $\Omega$
R414	5183134000	150k $\Omega$
R415	5183098000	4.7k $\Omega$
R416	5183130000	100k $\Omega$
R417	5183134000	150k $\Omega$
R418	5182114000	22k $\Omega$
R419	5183098000	4.7k $\Omega$

REF. NO.	PARTS NO.	DESCRIPTION
R420	5183138000	220k $\Omega$
R421	5183130000	100k $\Omega$
R422	5183100000	5.6k $\Omega$
R423	5183100000	5.6k $\Omega$ (V-95RX/V-R1)
R424	5183100000	5.6k $\Omega$
R425	5183100000	5.6k $\Omega$ (V-95RX/V-R1)
R426, R427	5183100000	5.6k $\Omega$
R428	5183098000	4.7k $\Omega$
R429	5183114000	22k $\Omega$
R430	5183098000	4.7k $\Omega$
R431	5183144000	390k $\Omega$
R432	5183120000	39k $\Omega$
R433	5183116000	27k $\Omega$
R434	5183138000	220k $\Omega$
R435	5183106000	10k $\Omega$
R436~R442	5183060000	120 $\Omega$
R443	5183060000	120 $\Omega$ (V-95RX/V-R1)
R444	5183038000	15 $\Omega$
R445	5183058000	100 $\Omega$
R446	5183122000	47k $\Omega$
R447	5183130000	100k $\Omega$
R448	5183114000	22k $\Omega$
R450~R452	5183082000	1k $\Omega$
R453	5183118000	33k $\Omega$
	<b>CAPACITORS</b>	
C401, C402	5173005800	Elec. 4.7 $\mu$ F 35V
C403	5173005800	Elec. 4.7 $\mu$ F 35V (V-95RX/V-R1)
C404~C409	5173005800	Elec. 4.7 $\mu$ F 35V
C412	5173005800	Elec. 4.7 $\mu$ F 35V
C413	5173011800	Elec. 10 $\mu$ F 25V
C414	5172992800	Elec. 1 $\mu$ F 50V
C415	5172996800	Elec. 2.2 $\mu$ F 50V
C416	5172996800	Elec. 2.2 $\mu$ F 50V
C417	5173011800	Elec. 10 $\mu$ F 25V
C418	5170437000	Mylar 0.033 $\mu$ F 100V 5%
C419	5173005800	Elec. 4.7 $\mu$ F 35V
C420	5173027800	Elec. 33 $\mu$ F 16V
	<b>VARIABLE RESISTORS</b>	
R40	5280004302	Semi-fixed 200k $\Omega$ (B)
R41	5280003502	Semi-fixed 10k $\Omega$ (B)
	<b>CONNECTORS</b>	
P401	5122131000	Plug, 7P
P402	5122130000	Plug, 6P
P403	5122132000	Plug, 8P
P404	5122129000	Plug, 5P
P405	5122127000	Plug, 3P
P406	5336104100	Socket, WP22-1W
P407~P409	5336104200	Socket, MWP2P-1B
P410	5336104100	Socket, WP22-1W
P413	5122126000	Plug, 2P
P414	5122128000	Plug, 4P

[US]: U.S.A. [C]: CANADA [GE]: GENERAL EXPORT [E]: EUROPE [UK]: U.K.  
[A]: AUSTRALIA [J]: JAPAN [L]: LIMITED AREA

## OPERATION SW PCB ASSY (REVISION)



REF. NO.	PARTS NO.	DESCRIPTION
	5200060601	PCB Assy (V-95RX/V-R1) [All except US, C]
	5200060611	PCB Assy (V-95RX/V-R1) [US, C]
	5200060621	PCB Assy (V-90R/V-R2) [All except US, C]
	5200060631	PCB Assy (V-90R/V-R2) [US, C]
	5210060601	PCB [All except US, C]
	5210063901	PCB [US, C]
U414	5242105100	Resistor Array, 2.2kΩ x 7
U415, U416	5228006900	Diode Array, DA-4P
U417	5228006800	Diode Array, DA-3P
S401	5302100900	Tact Switch
P411	5336103100	Connector Socket, 11P
P412	5336102400	Connector Socket, 4P
P413	5334021900	Connector Socket, 8P
	5225010300	LED, GL-5PR6
	5225010400	LED, GL-5NG10
	5800318402	Plate, Shield

[US]: U.S.A. [C]: CANADA [GE]: GENERAL EXPORT [E]: EUROPE [UK]: U.K.  
[A]: AUSTRALIA [J]: JAPAN [L]: LIMITED AREA

**TEAC CORPORATION**

3-7-3 NAKA-CHO MUSASHINO TOKYO PHONE (0422) 53-1111

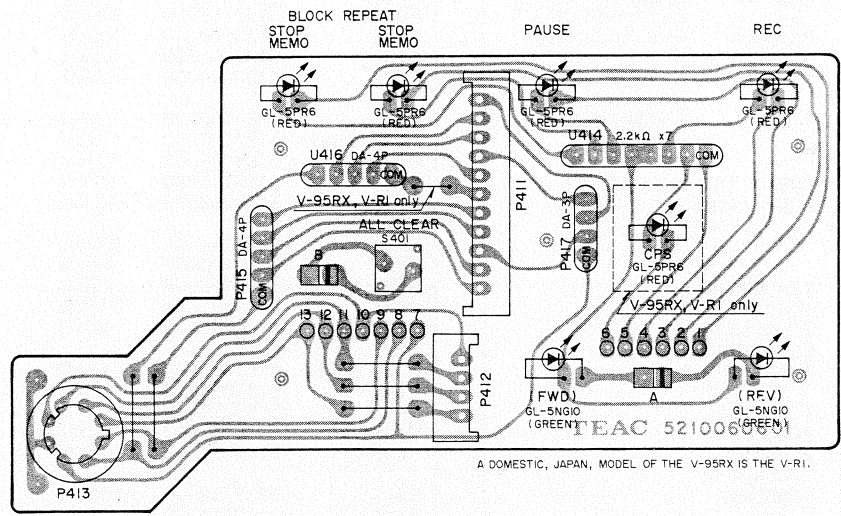
TEAC CORPORATION OF AMERICA

7733 TELEGRAPH ROAD MONTEBELLO CALIFORNIA 90640 PHONE (213) 726-0303

TEAC AUSTRALIA PTY., LTD.

115 WHITEMAN STREET SOUTH MELBOURNE VICTORIA 3205 PHONE 699-6000

OPERATION SW PCB ASSY (REVISION)



REF. NO.	PARTS NO.	DESCRIPTION
	5200060601	PCB Assy (V-95RX/V-R1) [All except US, C]
	5200060611	PCB Assy (V-95RX/V-R1) [US, C]
	5200060621	PCB Assy (V-90R/V-R2) [All except US, C]
	5200060631	PCB Assy (V-90R/V-R2) [US, C]
	5210060601	PCB [All except US, C]
	5210063901	PCB [US, C]
U414	5242105100	Resistor Array, 2.2kΩ x 7
U415, U416	5228006900	Diode Array, DA-4P
U417	5228006800	Diode Array, DA-3P
S401	5302100900	Tact Switch
P411	5336103100	Connector Socket, 11P
P412	5336102400	Connector Socket, 4P
P413	5334021900	Connector Socket, 8P
	5225010300	LED, GL-5PR6
	5225010400	LED, GL-5NG10
	5800318402	Plate, Shield

[US]: U.S.A.    [C]: CANADA    [GE]: GENERAL EXPORT    [E]: EUROPE    [UK]: U.K.  
[A]: AUSTRALIA    [J]: JAPAN    [L]: LIMITED AREA

TEAC CORPORATION

3-7-3 NAKA-CHO MUSASHINO TOKYO PHONE (0422) 53-1111

TEAC CORPORATION OF AMERICA

7733 TELEGRAPH ROAD MONTEBELLO CALIFORNIA 90640 PHONE (213) 726-0103

TEAC AUSTRALIA PTY., LTD.

115 WHITEMAN STREET SOUTH MELBOURNE VICTORIA 3205 PHONE 699-6100

# TEAC SCHEMATIC DIAGRAM (CONTROL) V-95RX/V-R1

1

2

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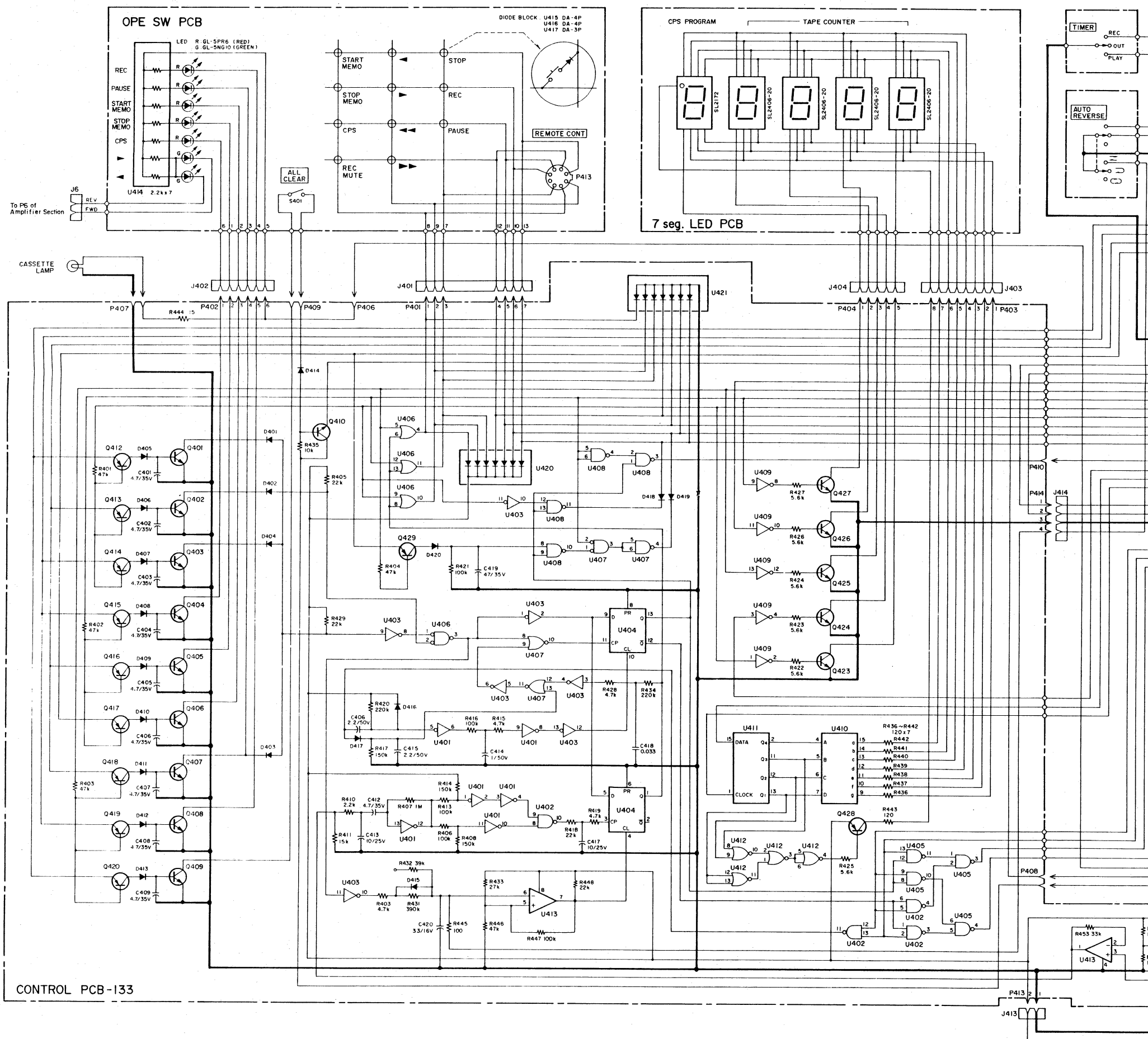
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E

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G

H

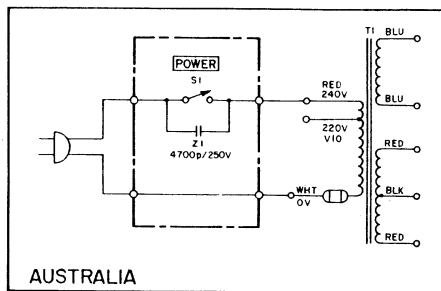


CONTROL PCB-133

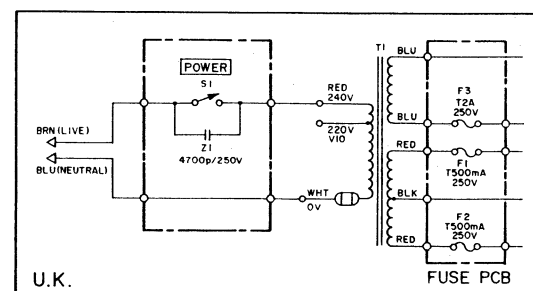
CONTROL PCB-133		
U401	TC4069UBP	Q401 ~ Q410
U402	TC4011BP	Q411
U403	TC4069UBP	Q412 ~ Q420
U404	TC4013BP	Q421, Q422
U405	TC4011BP	Q423 ~ Q427
U406	TC4071BP	Q428, Q429
U407	TC4001BP	D401 ~ D420
U408	TC4011BP	
U409	TC4069BP	
U410	TC5002BP	
U411	TC4015BP	U420 DA-8P
U412	TC4001BP	U421 DA-8N
U413	LM2904	

R/P PCB(1/2)		
U301	NJM78M12A	D301 LBA-01
U302	NJM79M12A	D302 MBK-02
U303	NJM78M05A	D303, D304 SM-1A-02
		D305 EQA01-13A
Q301	2SD985	D306 SM-1A-02
Q314	2SD985	D311 SM-1A-02
Q315	2SD313(F)	D312 GZA9.1L
Q316	KTN5014(GR)	D106 ~ D108 IS2473HJ
Q118	2SA1015 (GR)	D109 DS155D

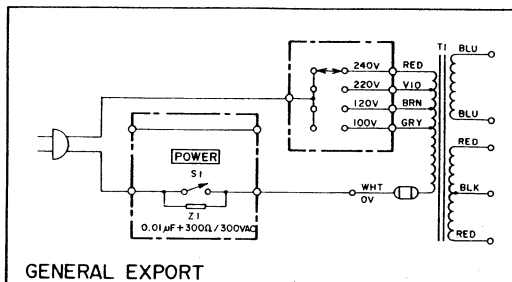
CONTROL PCB	
IC1	MPU T4-38262
IC2, IC3	BA6208
Q1	2SD400(E)
Q2 ~ Q10	2SC1815(Y)
Q11	2SA1015(Y)
D1 ~ D7	IS2473HJ
D8	IN4002
ZD1	HZ7B2
ZD2	HZ3C1
ZD3	W2044



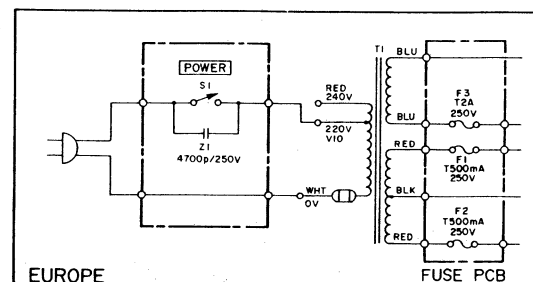
AUSTRALIA



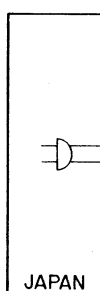
U.K.



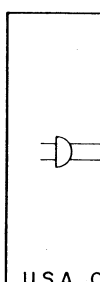
GENERAL EXPORT



EUROPE



JAPAN



U.S.A., C

## NOTES:

1. A domestic, Japan, model of the V-95RX is the V-R1.
2. Ser. No. 8941 and after.





U.S.A., CANA

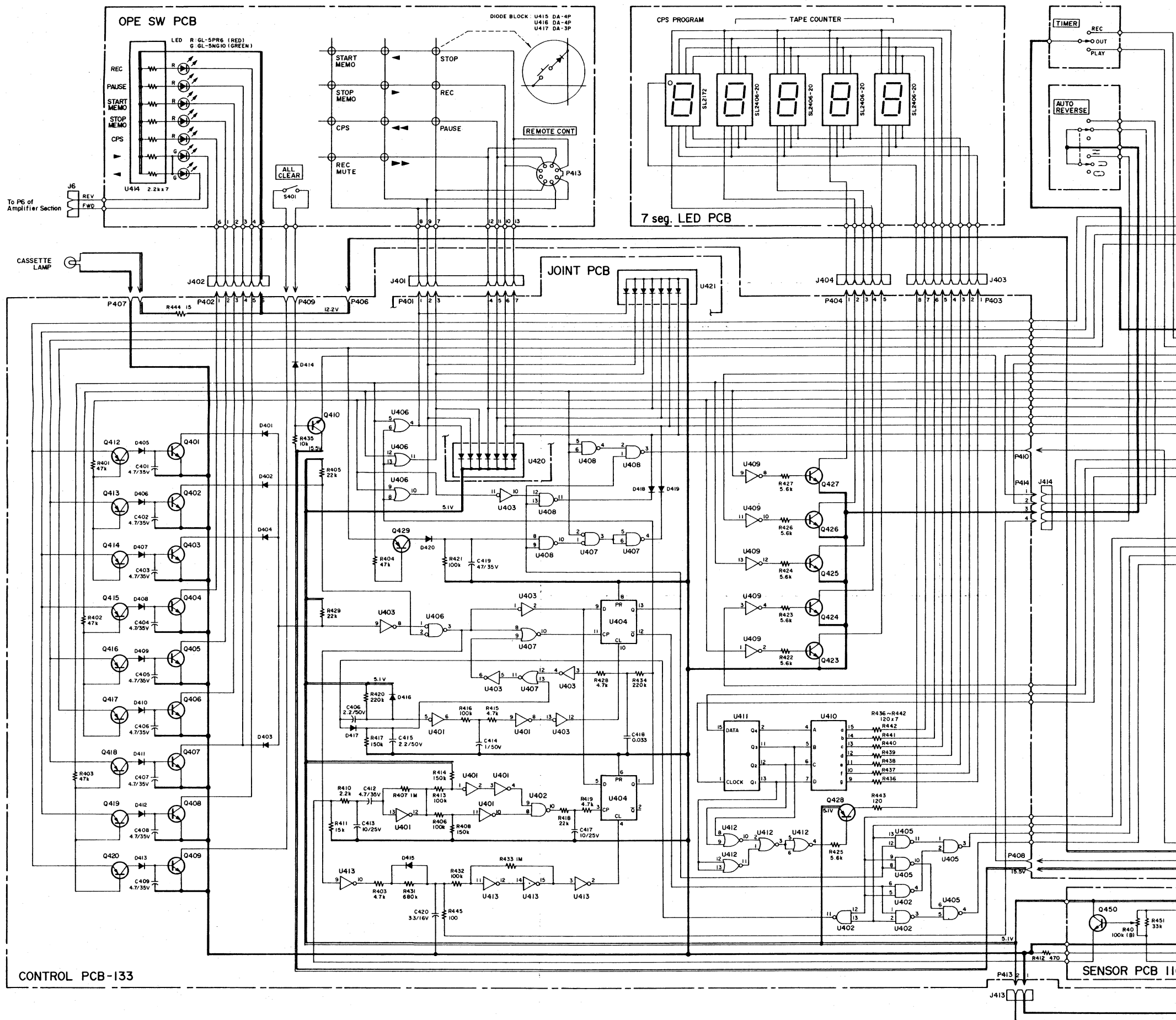
1. A domestic, Japan, model of the V-90R is the V-R2.
2. Ser. No. 9371 and after.





## Auto-Reverse Stereo Cassette Deck





CONTROL PCB-133

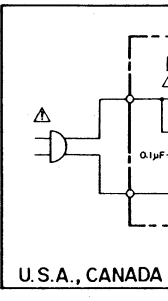
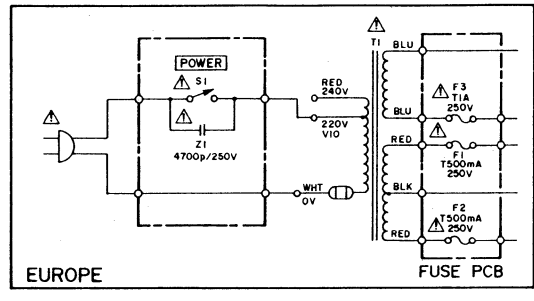
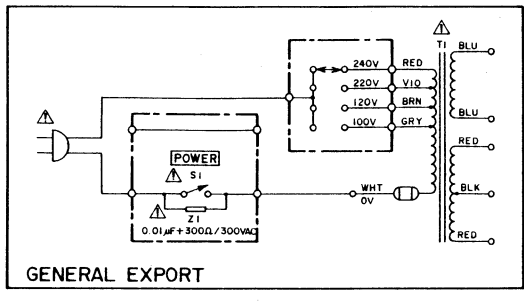
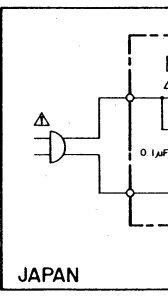
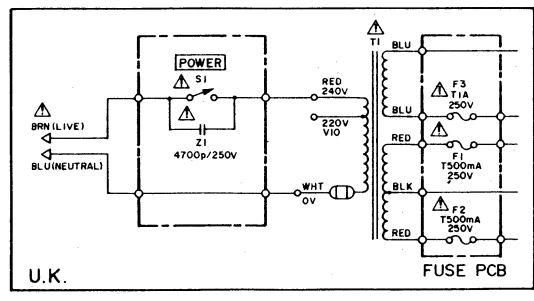
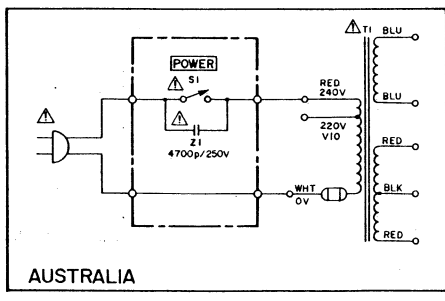
U401	TC4069UBP	Q401~Q410	KTN5014(GR)
U402	TC4011BP	Q411	(Not used)
U403	TC4069UBP	Q412~Q420	2SA1015(GR)
U404	TC4013BP	Q421, Q422	(Not used)
U405	TC4011BP	Q423~Q427	KTN5014(GR)
		Q428, Q429	2SA1015(GR)
U406	TC4071BP		
U407	TC4001BP	D401~D420	IS2473HJ
U408	TC4011BP		
U409	TC4069BP	Q450	KTN5014 (GR)
U410	TC5002BP		
U411	TC4015BP	U420	DA-8P (or D421~D427 IS2473HJ x7)
U412	TC4001BP	U421	DA-8N (or D428~D434 IS2473HJ x7)
U413	MSM4049		

R/P PCB(1/2)

U301	NJM78M12A	D301	LBA-01
U302	NJM78M12A	D302	MBK-02
U303	NJM78M05A	D303, D304	SM-1A-02
		D305	EQAO1-13A
Q301	2SD985	D306	SM-1A-02
Q314	2SD985	D311	SM-1A-02
Q315	2SD313(F)	D312	GZA91L
Q316	KTN5014(GR)	D106~D108	IS2473HJ
Q118	2SA1015 (GR)	D109	DSI35D

CONTROL PCB




IC1	MPU T4-38262
IC2, IC3	BA6208
Q1	2SD400(E)
Q2~Q10	2SC1815(Y)
Q11	2SA1015(Y)
D1~D7	IS2473HJ
ZD1	IN4002
ZD2	HZ7B2
ZD3	HZ3C1
	WZ046



- NOTES
1. All resistors are 1/4 watt, ±5%, unless otherwise noted. Resistor values are in ohms (k=1,000 ohms).
  2. All capacitor values are in microfarads. All non-polarized capacitors are ±5%, Mylar unless otherwise noted.
  3. Each voltage value shown above is the one measured in STOP mode.

4. ⚠ Parts marked with this sign are critical. They must always be replaced with the appropriate parts list and ensure.
5. □ : Front panel indication
6. +B : +B power supply circuit
7. A domestic, Japan, model of the V-



4.  Parts marked with this sign are safety critical components. They must always be replaced with identical components - refer to the appropriate parts list and ensure exact replacement.
5.  : Front panel indication
6.  : +B power supply circuit
7. A domestic, Japan, model of the V-95RX is the V-R1.

# V-95RX Stereo Cassette Deck

# TEAC SCHEMATIC DIAGRAM (AMPLIFIER) V-95RX

1

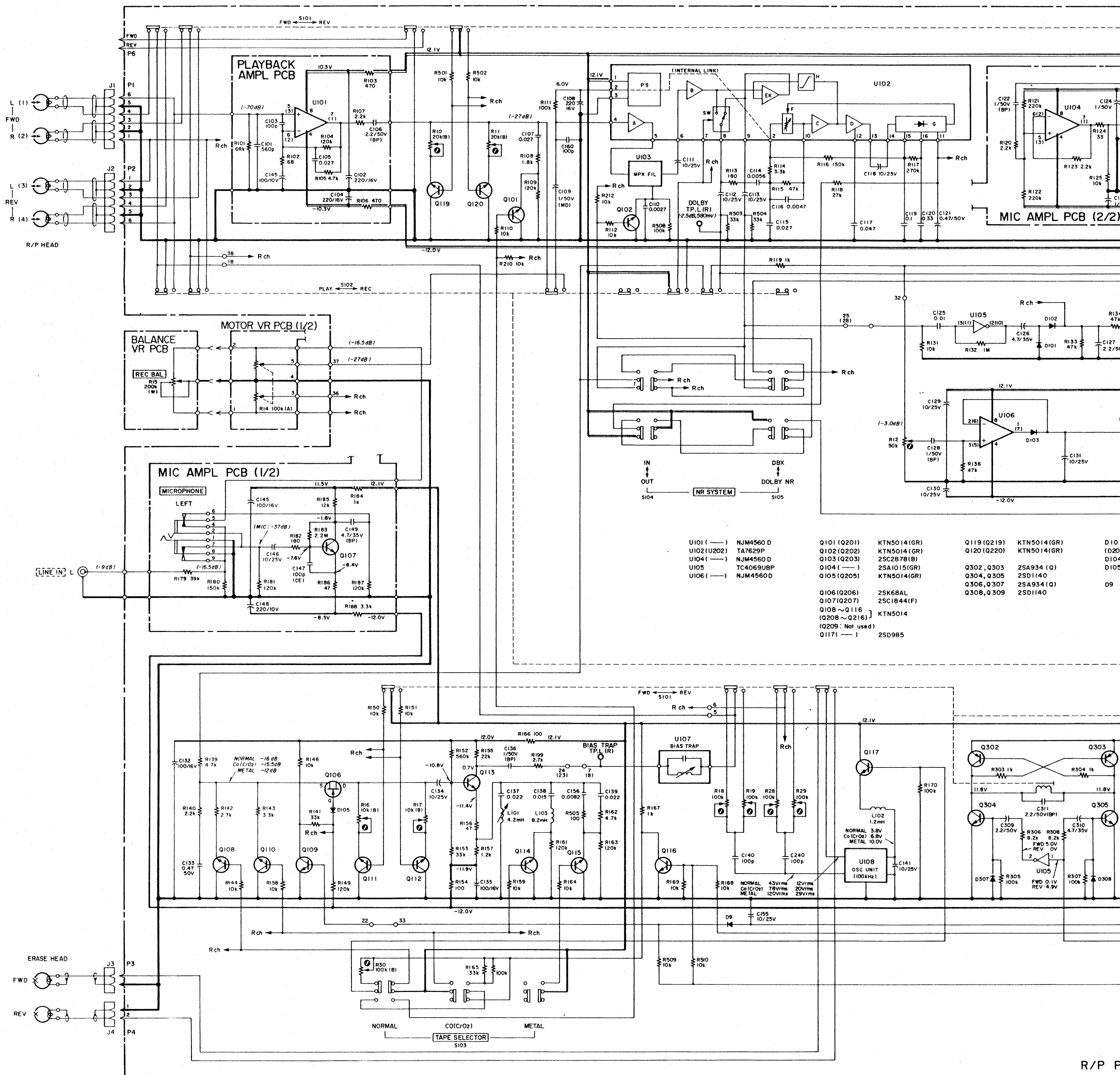
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4

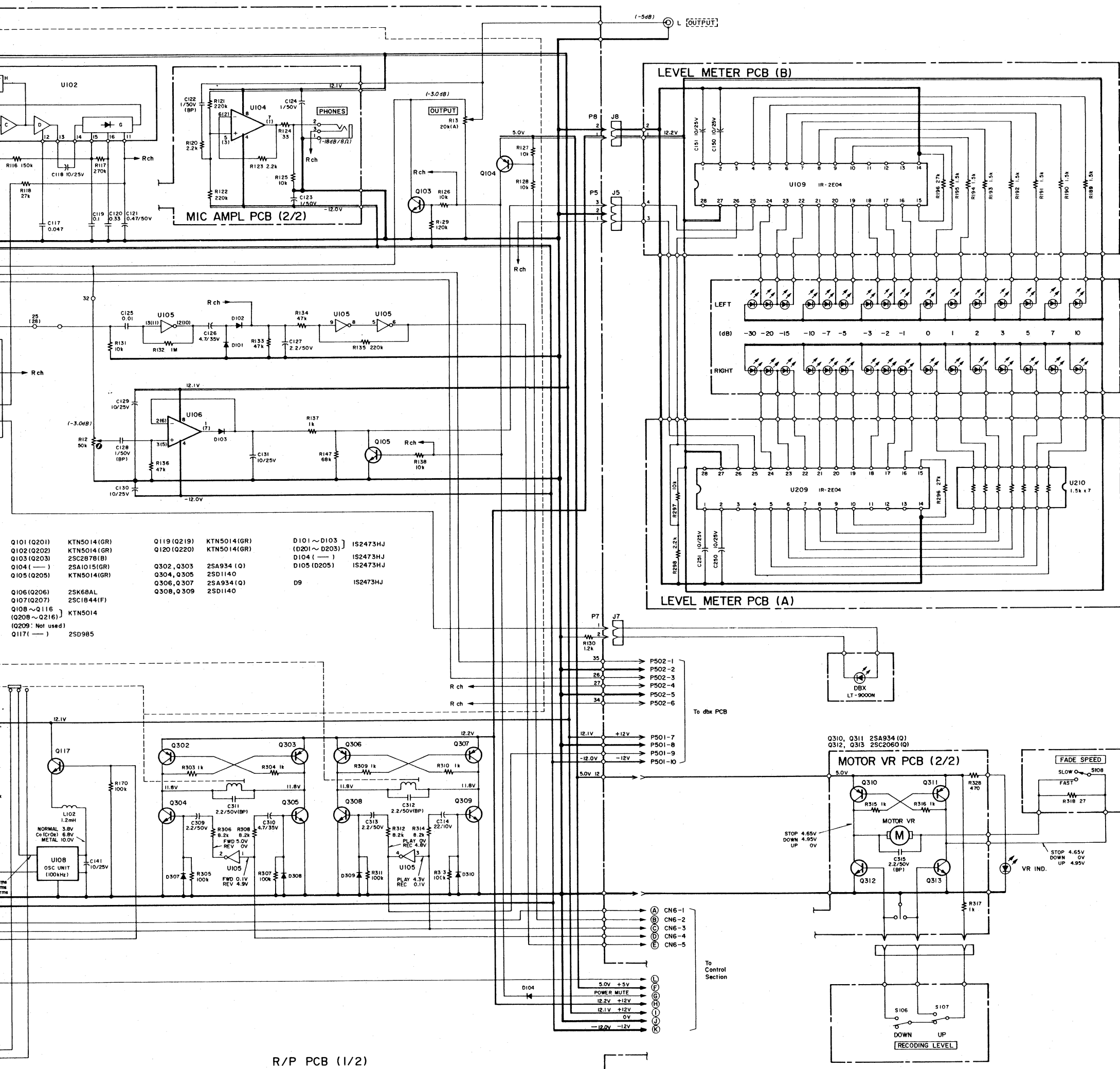
5

6



## NOTES

- Schematic diagram shown for left channel unless otherwise noted. Number in parenthesis indicate right channel terminals.
- All resistors are  $\frac{1}{4}W$ ,  $\pm 5\%$ , unless otherwise noted. Resistor values are in ohms (k=1,000 ohms, M=1,000,000 ohms).
- Capacitor values are in microfarads (p=picofarads).  
(CE) : Ceramic  
(BP) : Bipolar  
All non-polarized capacitors are  $\pm 5\%$  Mylar unless otherwise noted.
- Parts marked with this sign  $\Delta$  must always be replaced with the appropriate parts list and ensure the correct polarity.
- Voltage and level values are for reference only. 0 dB=0.775V
- Front panel indication
- Rear panel indication
- +B power supply circuit
- B power supply circuit
- A domestic, Japan, model of the V-95RX



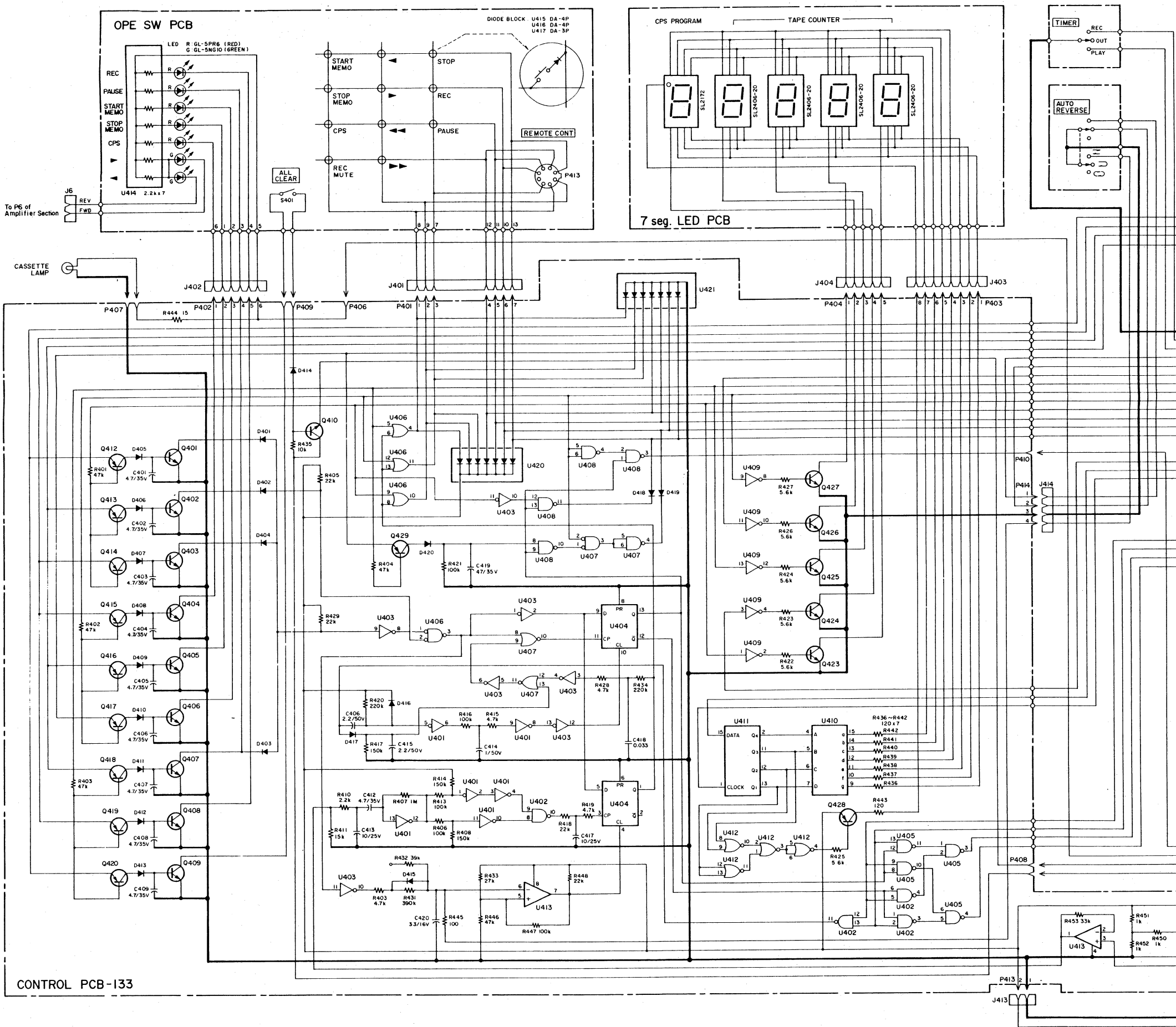
otherwise noted.  
 ninals.  
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 000,000 ohms).  
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s otherwise noted.

- Parts marked with this sign are safety critical components. They must always be replaced with identical components - refer to the appropriate parts list and ensure exact replacement.
- Voltage and level values are for reference only. 0 dB=0.775V
- Front panel indication
- Rear panel indication
- +B power supply circuit
- B power supply circuit
- A domestic, Japan, model of the V-95RX is the V-R1.

**V-95RX** Stereo Cassette Deck

TEAC SCHEMATIC DIAGRAM (CONTROL) V-95RX/V-R1



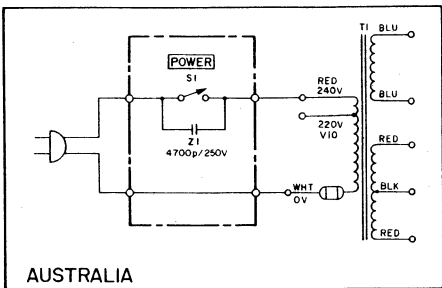
CONTROL PCB-133

CONTROL PCB-133		
U401	TC4069UBP	Q401 ~ Q410
U402	TC4011BP	Q411
U403	TC4069UBP	Q412 ~ Q420
U404	TC4013BP	Q421, Q422
U405	TC4011BP	Q423 ~ Q427
U406	TC4071BP	Q428, Q429
U407	TC4001BP	Q401 ~ Q420
U408	TC4011BP	
U409	TC4069BP	
U410	TC5002BP	
U411	TC4015BP	U420 DA-8P
U412	TC4001BP	U421 DA-8N
U413	LM2904	

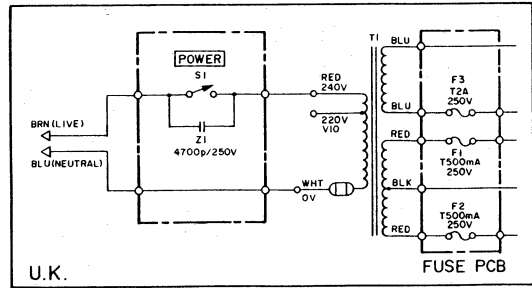
  

R/P PCB(1/2)		
U301	NJM78M12A	D301
U302	NJM78M12A	D302
U303	NJM78M05A	D303, D304
Q301	2SD985	D305
Q314	2SD985	D311
Q315	2SD313(F)	D312
Q316	KTN5014(GR)	D106 ~ D108
Q118	2SA1015 (GR)	D109
LBA-01		
MBK-02		
SM-1A-02		
EOA01-13A		
SM-1A-02		
SM-1A-02		
GZA9.1L		
IS2473HJ		
DSI35D		

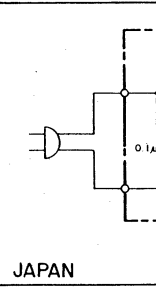
CONTROL PCB		
IC1	MPU T4-38262	
IC2, IC3	BA6208	
Q1	2SD4001(E)	
Q2 ~ Q10	2SC1815(Y)	
Q11	2SA1015(Y)	
D1 ~ D7	IS2473HJ	
D8	IN4002	
ZD1	HZ782	
ZD2	HZ3C1	
ZD3	WZ044	



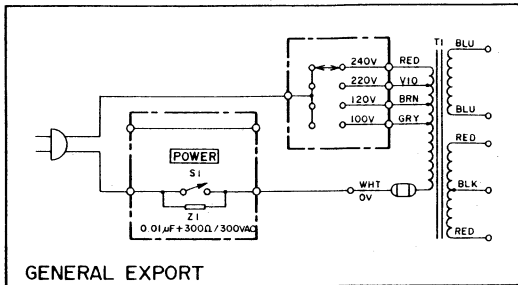
AUSTRALIA



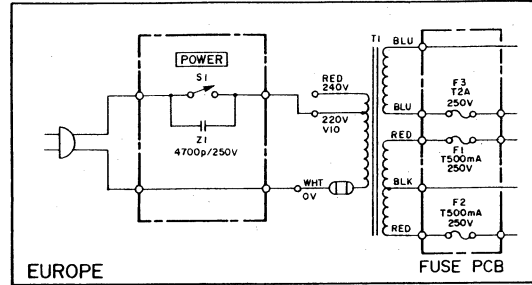
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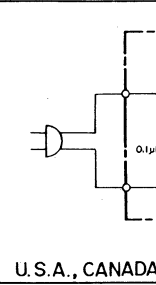
JAPAN



GENERAL EXPORT



EUROPE

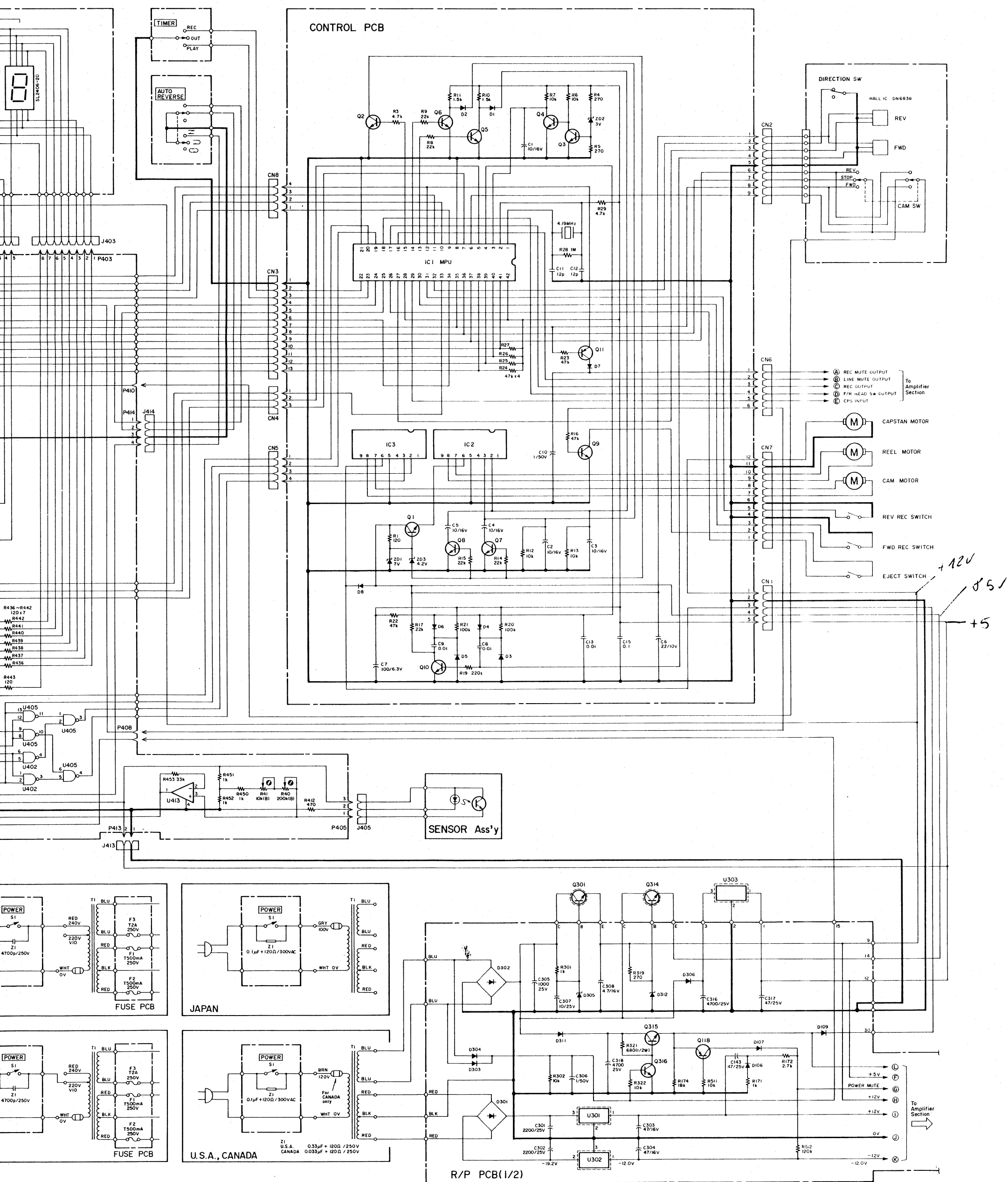


U.S.A., CANADA

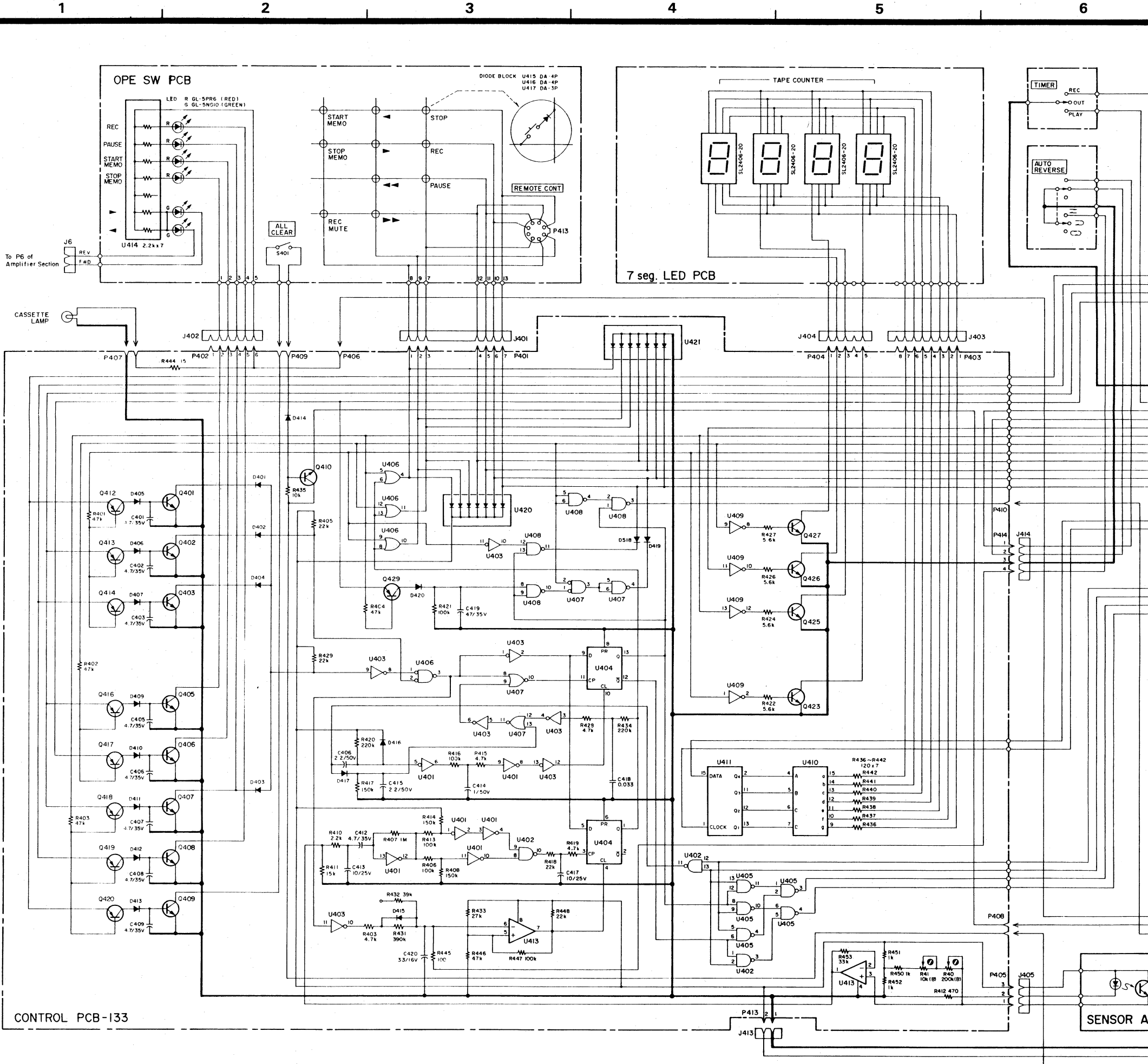
NOTES:

1. A domestic, Japan, model of the V-95RX is the V-R1.
2. Ser. No. 8941 and after.





TEAC SCHEMATIC DIAGRAM (CONTROL) V-90R/V-R2

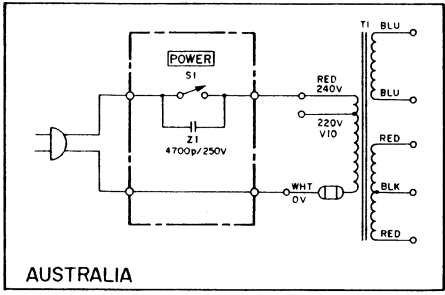


CONTROL PCB-133

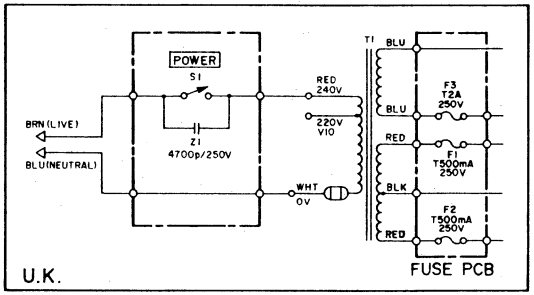
U401	TC4011BP	Q401 ~ Q403	KTN5014(GR)	U420	DA-8P
U402	TC4011BP	Q414	(Not used)	U421	DA-8N
U403	TC4011BP	Q415 ~ Q417	KTN5014(GR)		
U404	TC4011BP	Q418, Q422	(Not used)		
U405	TC4011BP	Q412 ~ Q420	2SA1015(CR)		
			2SA1015(GR)		
U406	TC4071BP	Q421, Q422	(Not used)		
U407	TC4001BP	Q423	KTN5014(GR)		
U408	TC4011BP	Q424	(Not used)		
U409	TC4069BP	Q425 ~ Q427	KTN5014(GR)		
U410	TC5002BP	Q428	(Not used)		
U411	TC4015BP	Q429	2SA1015(GR)		
U413	LM2904	D401 ~ D407	IS2473HJ		
		D408	(Not used)		
		D409 ~ D420	IS2473HJ		

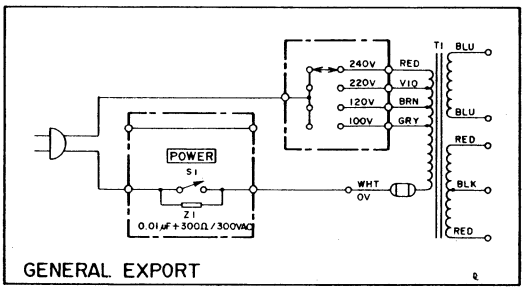
R/P PCB (1/2)				CONTROL PCB	
U301	NJM79M12A	D301	LBA-01	IC1	MPU T4-38262
U302	NJM79M12A	D302	MBK-02	IC2, IC3	BA6208
U303	NJM79M05A	D303, D304	SM-IA-02	Q1	2SD400(E)
		D305	EQAO1-13A	Q2 ~ Q10	2SC1815(Y)
Q301	2SD985	D306	SM-IA-02	Q11	2SA1015(Y)
Q314	2SD985	D311	SM-IA-02		
Q315	2SD313(F)	D312	GZA9.1L	D1 ~ D7	IS2473HJ
Q316	KTN5014(GR)	D106 ~ D108	IS2473HJ	D8	IN4002
Q118	2SA1015(GR)	D109	DS-135D	ZD1	HZ7B2
				ZD2	HZ3C1
				ZD3	WZ044



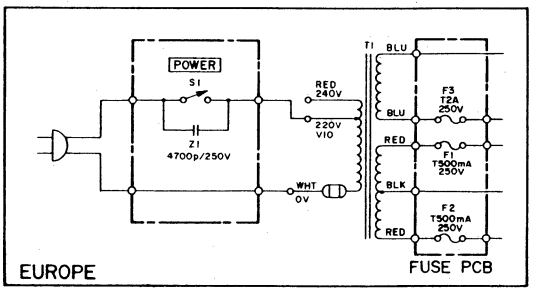
AUSTRALIA



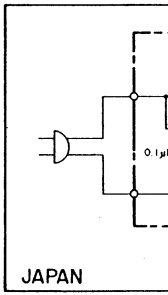
U.K.



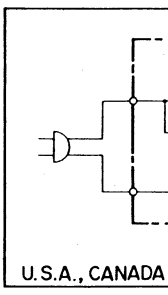
GENERAL EXPORT



EUROPE

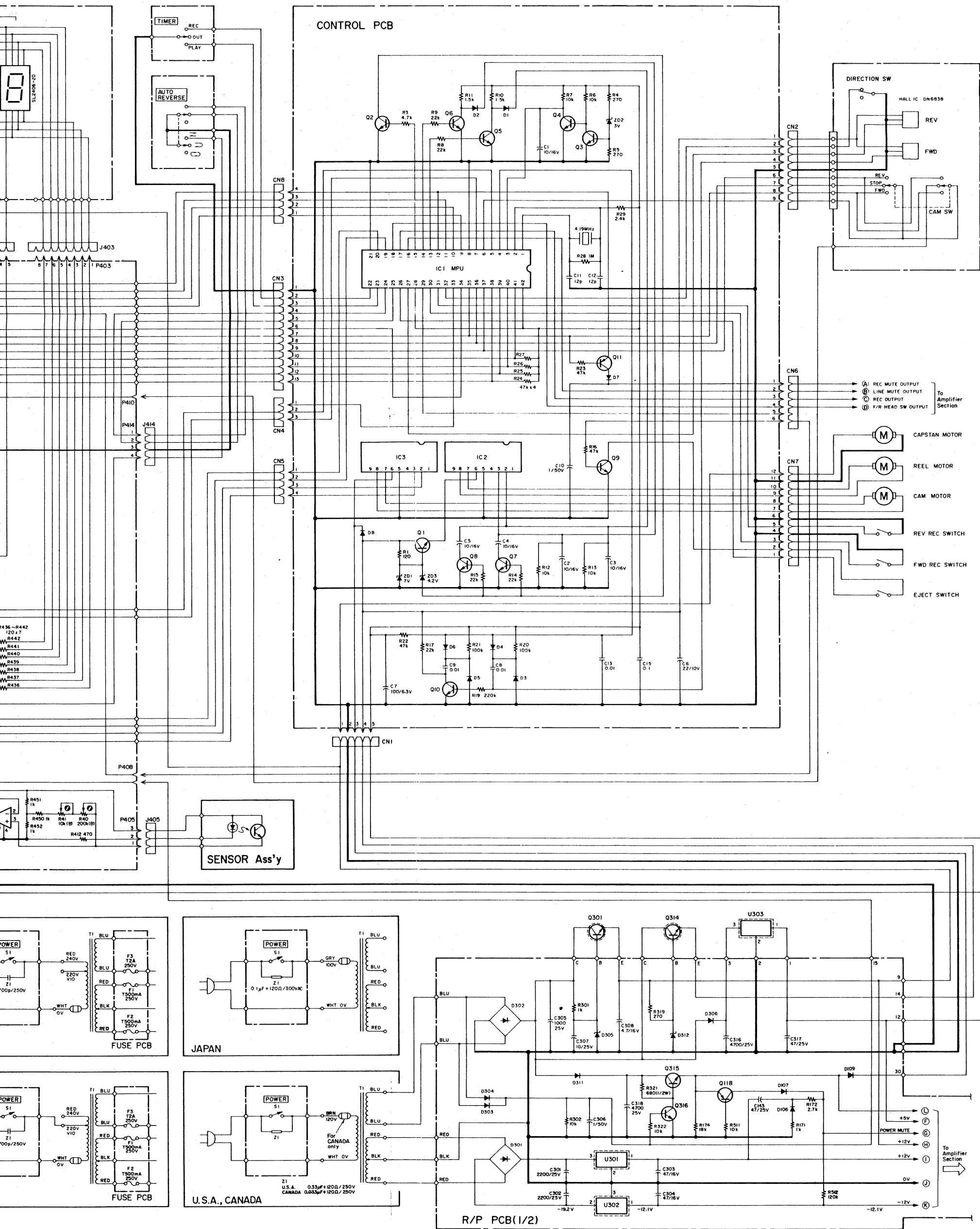


JAPAN



U.S.A., CANADA

NOTES:  
1. A domestic, Japan, model of the V-90R is the V-R2.  
2. Ser. No. 9371 and after.



# V-90R / V-R2

## Auto-Reverse Stereo Cassette Deck



# TEAC SCHEMATIC DIAGRAM (CONTROL) V-95RX

1

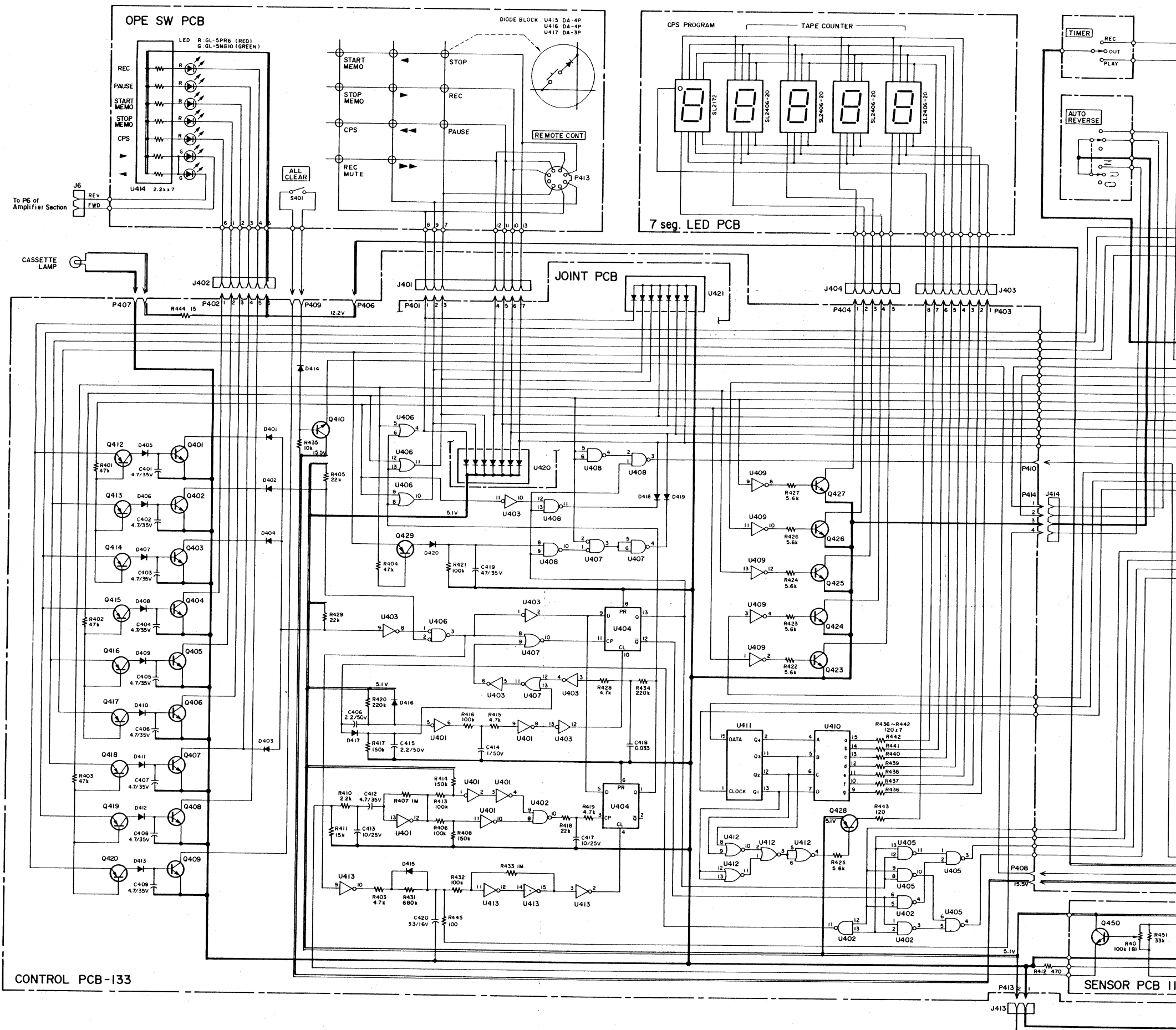
2

3

4

5

6



CONTROL PCB-133

## CONTROL PCB-133

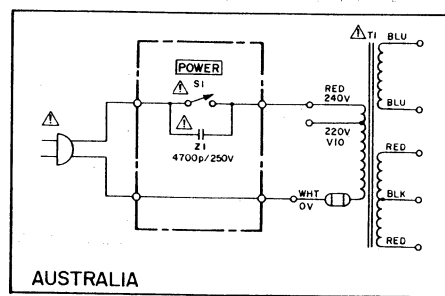
U401	TC4069UBP	Q401 ~ Q410	KTN5014(GR)
U402	TC4011BP	Q411	(Not used)
U403	TC4069UBP	Q412 ~ Q420	2SA1015(GR)
U404	TC4011BP	Q421, Q422	(Not used)
U405	TC4011BP	Q423 ~ Q427	KTN5014(GR)
		Q428, Q429	2SA1015(GR)
U406	TC4071BP	D401 ~ D420	IS2473HJ
U407	TC4001BP		
U408	TC4011BP		
U409	TC4069BP	Q450	KTN5014(GR)
U410	TC5002BP		
U411	TC4015BP	U420	DA-8P (or D421~D427 IS2473HJ x7)
U412	TC4001BP	U421	DA-8N (or D428~D434 IS2473HJ x7)
U413	MSM4049		

## R/P PCB(1/2)

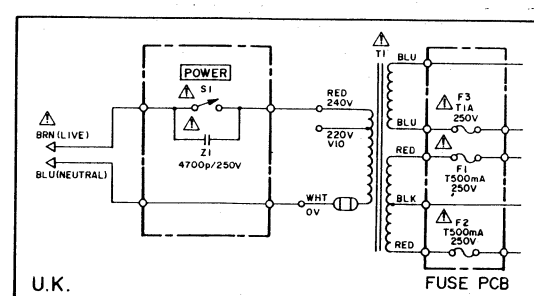
U301	NJM78M12A	D301	LBA-01
U302	NJM79M12A	D302	MBK-02
U303	NJM78M05A	D303, D304	SM-1A-02
		D305	EQAO1-13A
Q301	2SD985	D306	SM-1A-02
Q314	2SD985	D311	SM-1A-02
Q315	2SD313(F)	D312	6ZA91L
Q316	KTN5014(GR)	D106 ~ D108	IS2473HJ
Q118	2SA1015(GR)	D109	DS135D

## CONTROL PCB

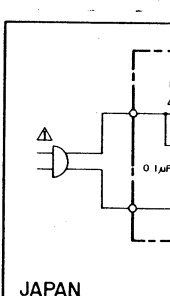
IC1	MPU T4-38262
IC2, IC3	BA6208
Q1	2SD400(E)
Q2 ~ Q10	2SC1815(Y)
Q11	2SA1015(Y)
D1 ~ D7	IS2473HJ
D8	IN4002
ZD1	HZ7B2
ZD2	HZ3C1
ZD3	WZ046



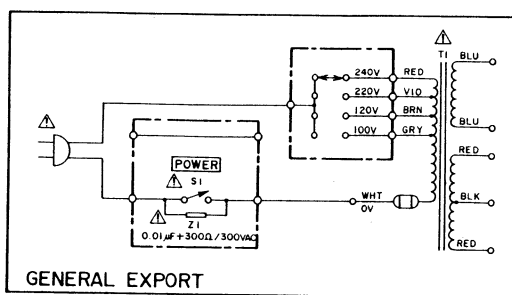
AUSTRALIA



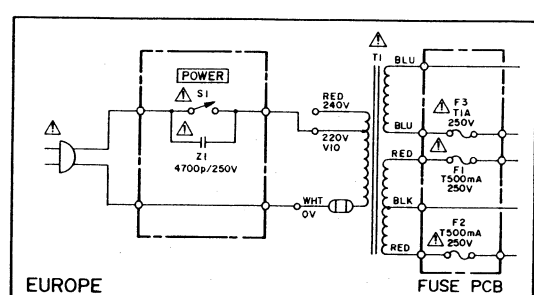
U.K.



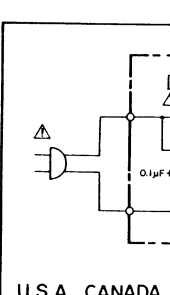
JAPAN



GENERAL EXPORT



EUROPE

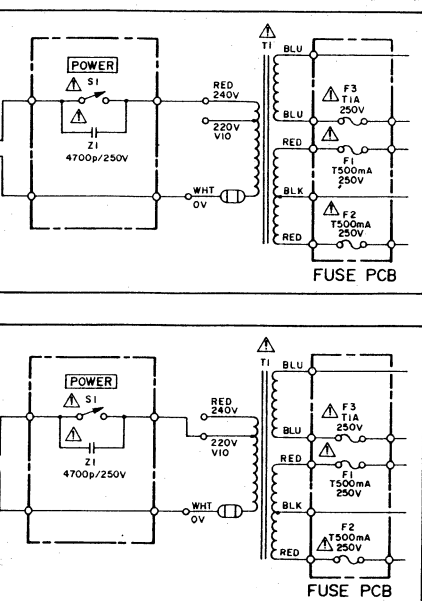


U.S.A., CANADA

## NOTES

1. All resistors are 1/4 watt,  $\pm 5\%$ , unless otherwise noted. Resistor values are in ohms ( $k=1,000$  ohms).
2. All capacitor values are in microfarads. All non-polarized capacitors are  $\pm 5\%$ , Mylar unless otherwise noted.
3. Each voltage value shown above is the one measured in STOP mode.




4.  $\Delta$  Parts marked with this sign are. They must always be replaced with the appropriate parts list and ensure.
5.  $\square$  : Front panel indication
6.  $\square$  : +B power supply circuit
7. A domestic, Japan, model of the V.



noted.

less otherwise noted.  
ured in STOP mode.

ured in STOP mode.

4.  Parts marked with this sign are safety critical components. They must always be replaced with identical components - refer to the appropriate parts list and ensure exact replacement.
5.  : Front panel indication
6.  : +B power supply circuit
7. A domestic, Japan, model of the V-95RX is the V-R1.

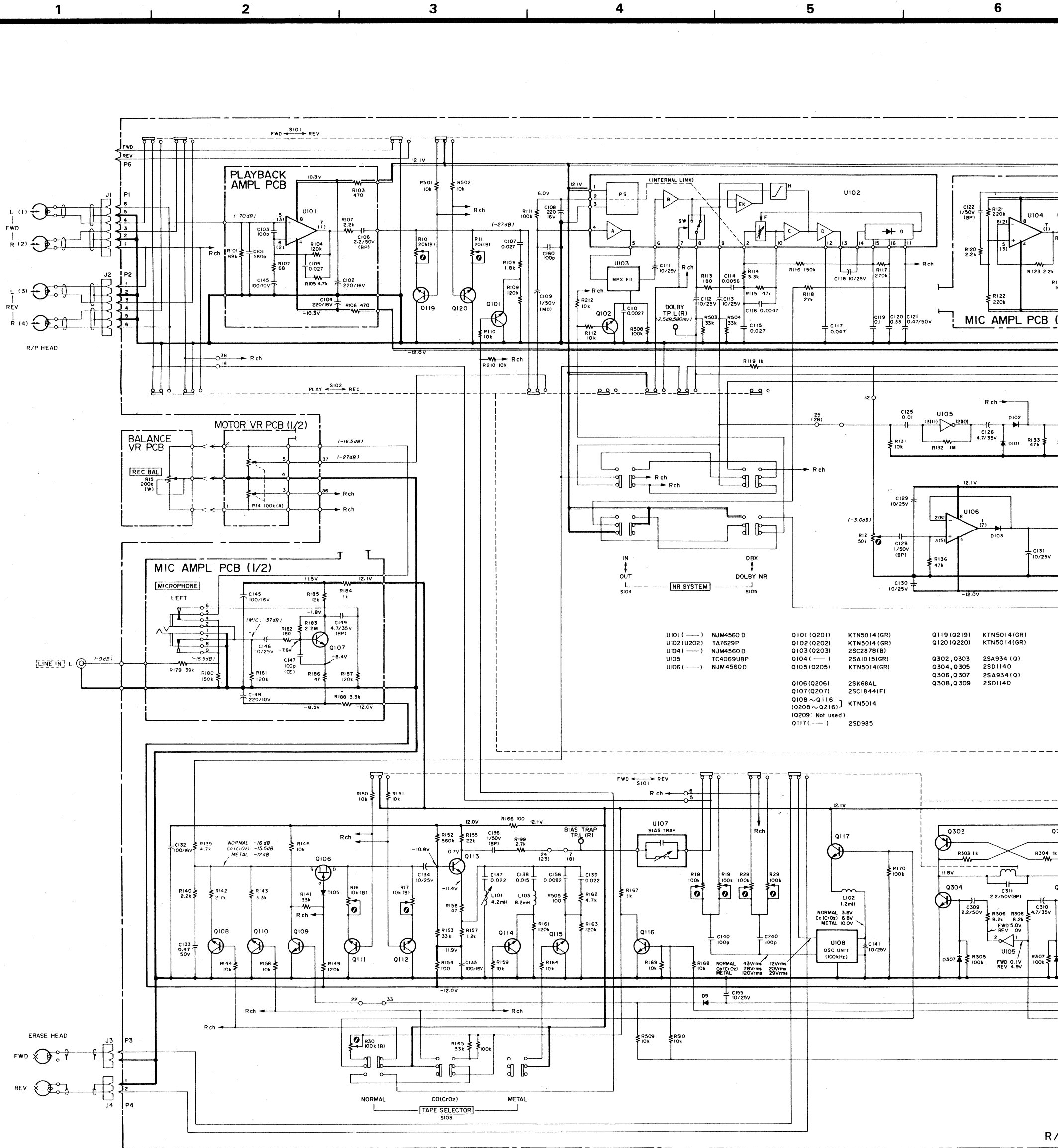
5.  : Front panel indication

6. \_\_\_\_\_ : +B power supply circuit

7. A domestic, Japan, model of the V-95RX is the V-R1.

# V-95RX Stereo Cassette Deck

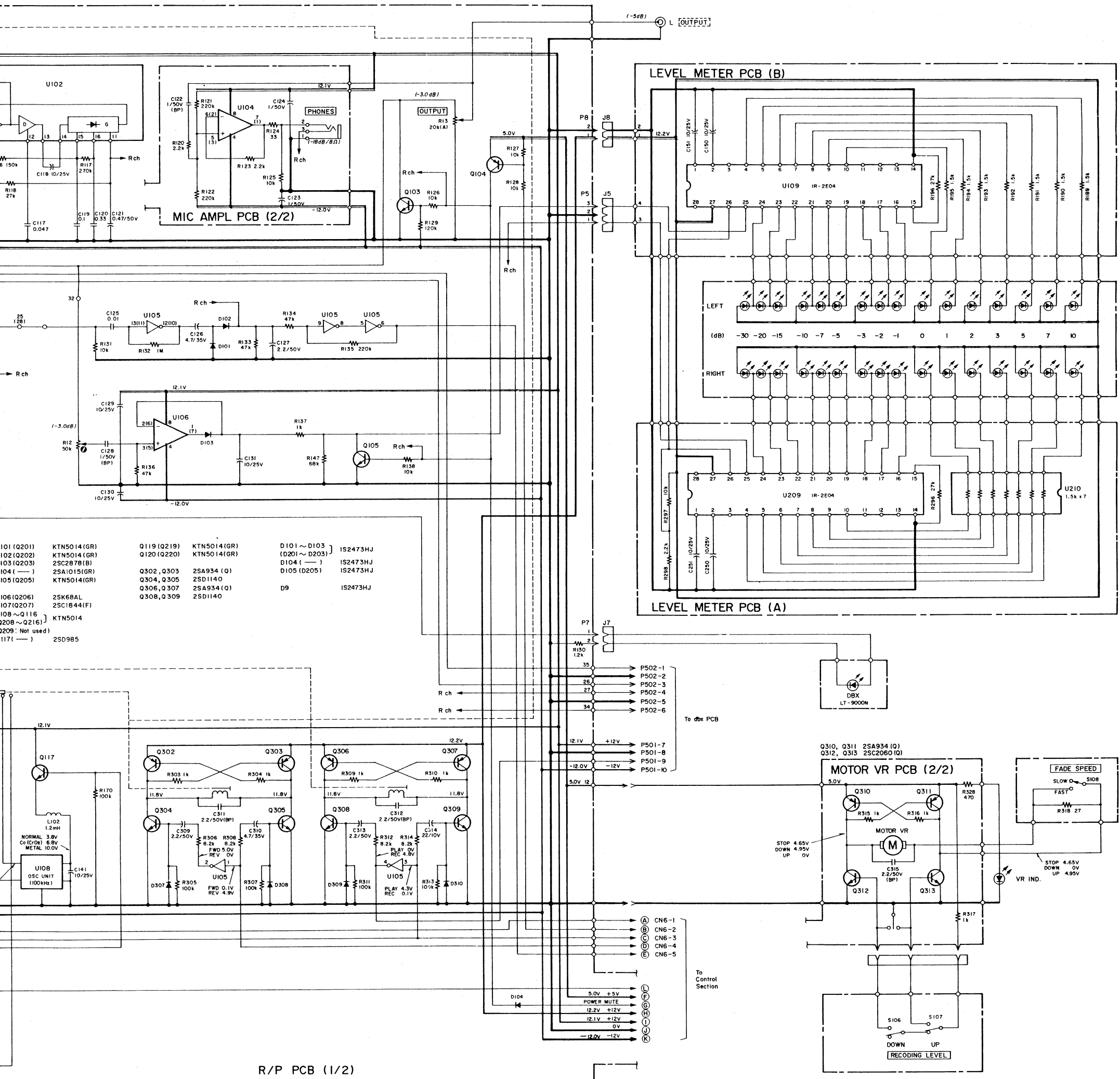
TEAC SCHEMATIC DIAGRAM (AMPLIFIER) V-95RX



NOTES

1. Schematic diagram shown for left channel unless otherwise noted. Number in parenthesis indicate right channel terminals.
2. All resistors are  $\frac{1}{4}W$ ,  $\pm 5\%$ , unless otherwise noted. Resistor values are in ohms (k=1,000 ohms, M=1,000,000 ohms).
3. Capacitor values are in microfarads (p=picofarads).  
(CE) : Ceramic  
(BP) : Bipolar  
All non-polarized capacitors are  $\pm 5\%$  Mylar unless otherwise noted.

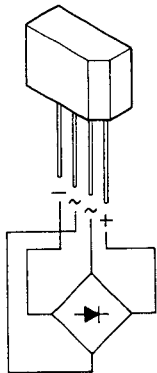
4.  $\Delta$  Parts marked with this symbol must always be replaced with the appropriate parts list and voltage and level values are for 0 dB=0.775V
5.  $\square$  : Front panel indicator
6.  $\square$  : Rear panel indicator
7.  $\square$  : +B power supply circuit
8.  $\square$  : -B power supply circuit
9.  $\square$  : A domestic, Japan, model of



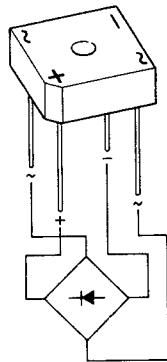
erwise noted.  
als.  
0,000 ohms).  
erwise noted.

- Parts marked with this sign are safety critical components. They must always be replaced with identical components - refer to the appropriate parts list and ensure exact replacement.
- Voltage and level values are for reference only. 0 dB=0.775V
- Front panel indication
- Rear panel indication
- +B power supply circuit
- B power supply circuit
- A domestic, Japan, model of the V-95RX is the V-R1.

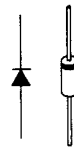
LBA-01



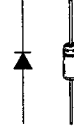
MBK3-02



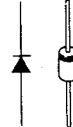
1N4002



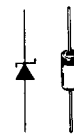
1S2473HJ



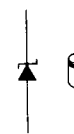
DS135  
SM-1A-02LFA



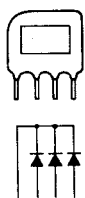
HZ-3C1  
HZ-7B2L  
WZ-042  
GZA-9.1L



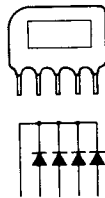
EQA01-13R



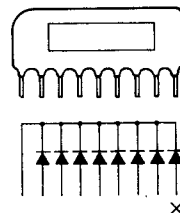
DA-3P



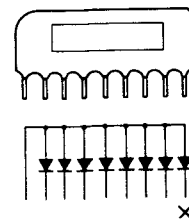
DA-4P



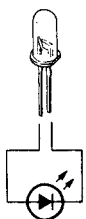
DA-8P



DA-8N



GL-5PR6  
GL-5NG10



GL-9NG10

